



Regulatory Authority Annual Report

Market Operator Performance

Period: 1st October 2015 to 30th September 2016

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1 Introduction

SONI Ltd. and EirGrid plc, operating as the Single Electricity Market Operator (SEMO) are required under Condition 17 and 10 of their respective Market Operator Licences to provide an annual report to the Regulatory Authorities on Market Operator Performance.

The period covered by this annual report is for financial year 2015/2016 (from 1st October 2015 through to 30th September 2016).

In line with all other reports from SEMO, Quarters will be defined according to the financial year as follows:

- Q1 = 1st October to 31st December
- Q2 = 1st January to 31st March
- Q3 = 1st April to 30th June
- Q4 = 1st July to 30th September

The four main categories of performance metric covered are:

- Manage Change
- Service Delivery
- Manage Stakeholders
- Provide Information

An additional section, providing a review of key areas of the SEM, is also included.

2 Manage Change

2.1 IT Capital Expenditure

2.1.1 IT Capital Expenditure 2013-2016

The section provides a summary of the nine approved capital business cases which address *inter alia*, the IT infrastructure requirements, the need for upgrading of operational support systems, data storage, system security etc.

During 2014/15 it was determined to not progress two capital projects included in the original CapEx programme:

- Project 8: Virtualisation of Oracle and network devices and
- Project 9: Upgrade of Supportworks helpdesk.

This was determined in the context of the:

- Regulatory approved target date of ISEM (Q4 2017) and
- The subsequent adoption of “Maintenance Mode” (i.e. minimum change) as the preferred Central Market Systems Roadmap approach.

For the same reasons, in early 2016 it was determined not to progress with:

- Project 6: Technical Upgrade of Microsoft Dynamics

The progress of each of the business cases can be viewed in the table below.

No	Capital Project	Project Description	Project Status
1	CMS Infrastructure	Three year Delivery timeline. Project will ensure the resilience of the CMS is maintained and the systems operate on fully supported platforms.	This piece of work will progress throughout 2013-2016. Complete. Note: Provision has been made under SEMO Price Control 2016 for further investment as required.
2	Website Infrastructure & Services Upgrade	This project will replace obsolete hardware to cope with exceptional growth which is far beyond expectations when originally designed. In addition the existing website software will be updated as required.	Project Complete
3	Sharepoint: Upgrade & Hardware Refresh	Sharepoint is a key operational support tool in operation since 2007. This project will replace obsolete hardware, upgrade sharepoint software to a supported version (V2013), migrate data to the new version and enhance data storage capability	Project Complete
4	Corporate Systems Refresh	Update and optimise data storage and routing capabilities including updating the corporate Storage Area Networks (SANs), replacing load balancers and replacing the backup system.	Phase 1: External Corporate firewalls upgrade – Complete Phase 2: Upgrade of RightFax solution - Complete Phase 3: Internal Firewalls and Load Balancer upgrade – Complete Phase 4: RSA (remote authentication) upgrade - Complete

			<p>Phase 5: Analysis of SAN and backup system– Complete</p> <p>Phase 6: Corporate server replacement program. Complete.</p> <p>Note: Provision has been made under SEMO Price Control 2016 for further investment as required.</p>
5	Telecommunications Links	Key infrastructure components providing fully redundant, consistently available high performance links between SEMO sites.	Project Complete.
6	Technical Upgrade of Microsoft Dynamics	Upgrading the MS Dynamics software which covers both Market and SEMO Corporate finance.	Project will not now proceed in context of I-SEM and Maintenance Mode.
7	Security Intrusion (Protection of CMS)	Delivery of a Network Intrusion Detection System (NIDS).	<p>Phase 1: Security assessment. In 2013/14 SEMO commissioned an independent security assessment (Deloitte) of the CMS, with particular focus on the systems’ perimeter with the public internet. Recommendations made as part of this security assessment were addressed in the SEM R2.5.0 CMS release. This completed phase one of the project. Complete</p> <p>Phase 2: IPS Implementation. This involved the commissioning of a dedicated Intrusion Protection System (IPS). This system, deployed between the CMS and the internet, monitors, assesses and reports on potential threats within incoming traffic. The</p>

			hardware and software has been fully commissioned and the system will continue to be configured as potential threats materialise. Complete.
8	Virtualisation of Oracle & network devices	<p>This project will virtualise</p> <ul style="list-style-type: none"> • non-Production Oracle databases • Cisco network equipment in Belfast data centre 	Analysis complete. This Project will not now proceed.
9	Upgrade of Supportworks Helpdesk	This project will provide a lifecycle upgrade for the software used by the Market Helpdesk.	Analysis complete. This project will not now proceed.

Table 2: Details of Capital Business Cases 2013-2016

2.2 System Releases

- Central Market Systems Releases (01-Oct-2015 – 30-Sep-2016)

The following table summarises the releases deployed to the CMS in the period 01-Oct-2015 to 30-Sep-2016:

CMS Release	Deployment Date	Release Type	No. of Change Requests	Interface Impact?
SEM R2.7.0	02-Oct-2015	Scheduled	4	No
SEM R2.8.0	17-June-2016	Scheduled	3	Yes

Table 3: Release Activity Oct 2015 – Sep 2016

- Central Market Systems Roadmap

The SEM R2.8.0 release was the final release under the three year release programme 2013-2016. In the context of the target I-SEM Go-Live of Q4 2017 SEMO consulted with the industry around the future need of a bi-annual release programme for the Central Market Systems post SEM R2.8.0.

Responses to the consultation indicated that there was no requirement to further develop the Central Market Systems and, as a result, the roadmap approach recommended by SEMO (i.e. Maintenance Mode) was endorsed by the Regulatory Authorities and adopted by SEMO.

Any future release requirement (e.g. where an emergency change may be required) can be facilitated under the extended ESA support agreement. The bi-annual release contract came to an end with the SEM R2.8.0 release.

2.3 Modification Management

The tables that follow give an overview of the activity that has taken place between 1st Oct 2015 and 30th Sept 2016. Table 5 and Table 6 show the dates and number of Modifications Committee Meetings that took place over this period.

Meeting	Date	Location
64	14 th October 2015	Belfast
65	3 rd December 2015	Dublin
66	11 th February 2016	Conference Call
67	14 th April 2016	Belfast
68	9 th June 2016	Conference Call
69	11 th August 2016	Conference Call

Table 5: Modifications Committee Meetings

Modification Committee Meetings	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total
Scheduled meetings	2	1	2	1	6
Other meetings	0	0	0	0	0
Working Groups	0	0	0	0	0

Table 6: Modification Committee Meetings & Working Groups

At the Modifications Committee Meetings, decisions are made with regard to progressing various Modification Proposals. Table 7 and Figure 1 give an outline of the amount of activity that has taken place in each quarter.

Modification Proposal Activity	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Total
Raised	2	0	1	0	3
Alternative Versions raised	0	0	0	0	0
Withdrawn	0	0	0	0	0
Deferred	2	3	4	3	12
Extension Granted	0	1	0	0	1
Recommended for Approval	4	2	2	0	8
Recommended for Rejection	3	3	3	3	12
Further Work Required	1	1	1	1	4
Approved	2	2	2	1	7
Rejected	1	0	0	1	2

Table 7: Modification Proposal Activity

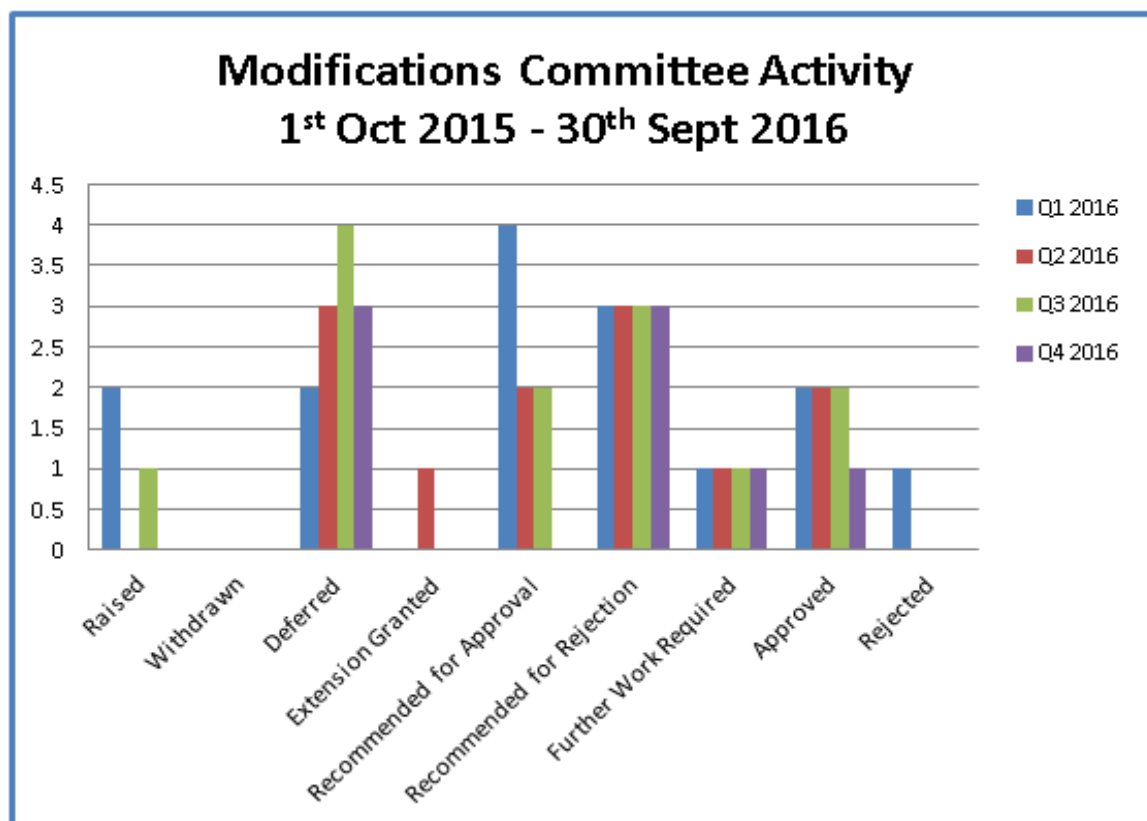


Figure 1 - Modifications Committee Activity

Finally, Table 8 and Figure 2 show the progress made on all the Modification Proposals submitted since the beginning of the SEM in November 2007 and their status at the end of each quarter.

Modification Proposal Status	End Q1 2016	End Q2 2016	End Q3 2016	End Q4 2016
Raised	351	351	352	352
Withdrawn	51	51	51	51
Deferred	2	3	4	3
Recommended for Rejection	3	3	3	3
Recommended for Approval	4	2	2	0
Approved	2	2	2	1
Implemented	276	276	276	279
Rejected	13	14	14	15

Table 8: Modification Proposal Status at end of each Quarter

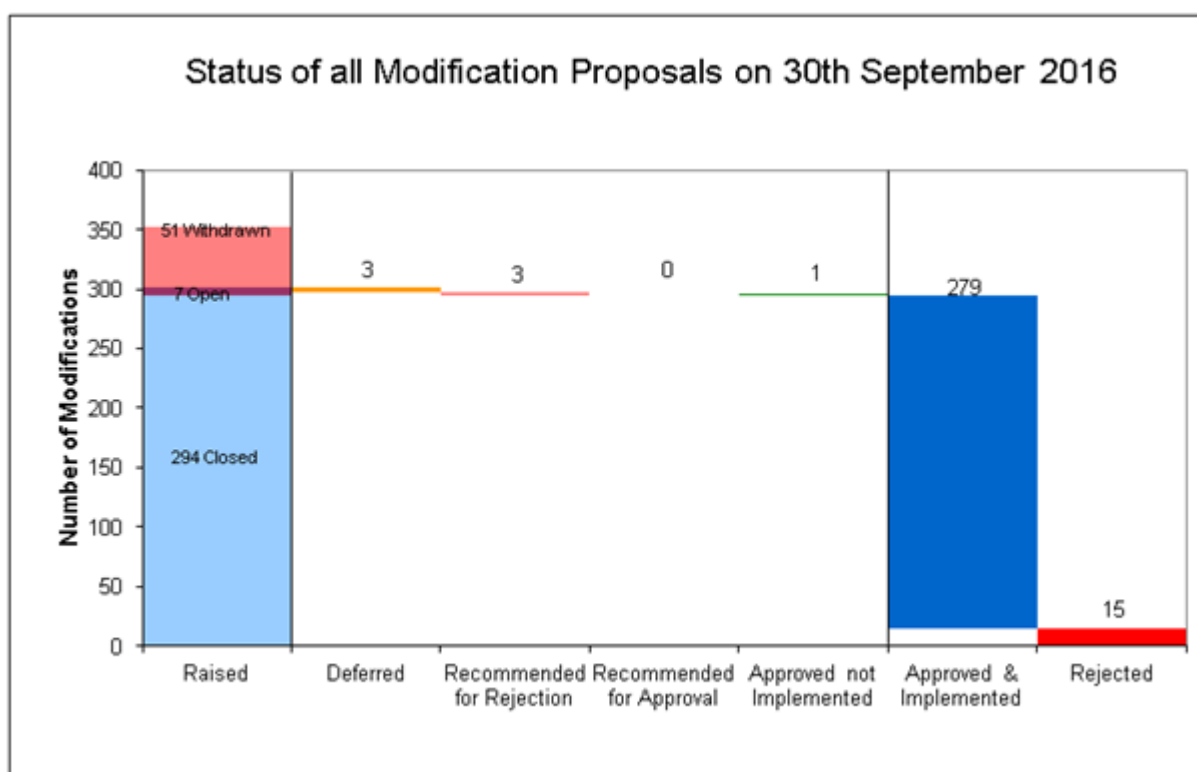


Figure 2 - Status of Modification Proposals from 1st November 2007 to 30th Sept 2016

2.3.1 Publication of the Trading & Settlement Code

Trading & Settlement Code and Agreed Procedures Version 18.0, were published on the SEMO website on 2nd October 2015 in line with the CMS release. Four effective Modifications were included in the version.

2.3.2 2016 Modifications Committee Elections

Modifications Committee Annual Elections commenced in June with a call for nominations for four expiring positions on the Modifications Committee. Due to the minimum number of nominations received, and in accordance with AP12 Section 3.7 (6), the following nominees were automatically elected to the Modifications Committee.

Expired Member	New Member	Position
Brian Mongan	Brian Mongan	Generator
Aine Doran	William Carr	Generator
Catherine McHale	Jim Wynne	Supplier
Connor Powell	Connor Powell	Supplier
Patrick Liddy	Dr Paddy Finn	DSU

Table 9 - Modifications Committee Elections

The election for Chair and Vice-Chair took place in September with Kevin Hannafin (Viridian) returned as Chair and Julie-Anne Hannon (Bord Gais) elected to the position of Vice-Chair.

2.4 Modifications Process Development

Modification Proposals were considered at bimonthly Modifications Committee Meetings alternating between Belfast and Dublin or conference call where applicable (see Table 5).

Full details of all modifications progressed during the year are available in the Modifications section of the SEMO website. Summaries of some of the more significant Modification Proposals progressed are presented below.

Mod_02_13 Registration of Charges

Regulatory Authorities issued a Final Decision letter approving this proposal with immediate effect as per the letter dated 8th September 2016.

Mod_08_14 : Clarification of Location of SEM Collateral Reserve Accounts

Regulatory Authorities issued a Final Decision letter approving this proposal which will be effective within 6 months from the letter dated 8th September 2016. Final effective date will be agreed and communicated.

Mod_04_15: Modification to Relevant Meter Operator Role and Support Requirements for Meter Communication Channels

The purpose of this modification will require the Relevant Meter Operator and Generator where it provided Meter Communication channels, to provide 2 day support arrangements (on a 7 day basis) for Meter Communication Channels and associated power supplies to energy metering systems. This is

required for the provision of meter data to the SEM as per T&SC requirements under Appendix L “Meter data Transactions”.

Engagement is also ongoing through various Metering Groups to address this issue. This proposal and progress on further engagement will be discussed again at Meeting 70 in October.

Mod_06_15 : REMIT Data Reporting by the Organised Market Place to ACER

Following an extended Committee Meeting focusing on the REMIT modification proposal the Committee were happy to vote. The proposal was recommended for approval by a unanimous vote. The final recommendation report was sent to the Regulatory Authorities who have issued the final decision to approve the proposal.

3 Service Delivery

These metrics indicate how timely SEMO were in producing reports to Market Participants.

3.1 Core Market Operations Function Performance

SEMO is obligated on every day to close the market gate, issue ex-ante indicative schedules and run indicative and initial pricing runs. Every working day SEMO is obliged to issue initial and indicative settlement runs statements.

The following series of graphs shows the percentage of all reports issued in the last year by quarter that were on time, late by less than an hour or late by over an hour. In summary most reports were issued on time or within an hour of the required time. Where initial reports go out over an hour late (infrequent) these still are delivered on the day (less than 3 hours late). The full details of the reasons for the delays are provided in the Monthly Market Operator Reports.

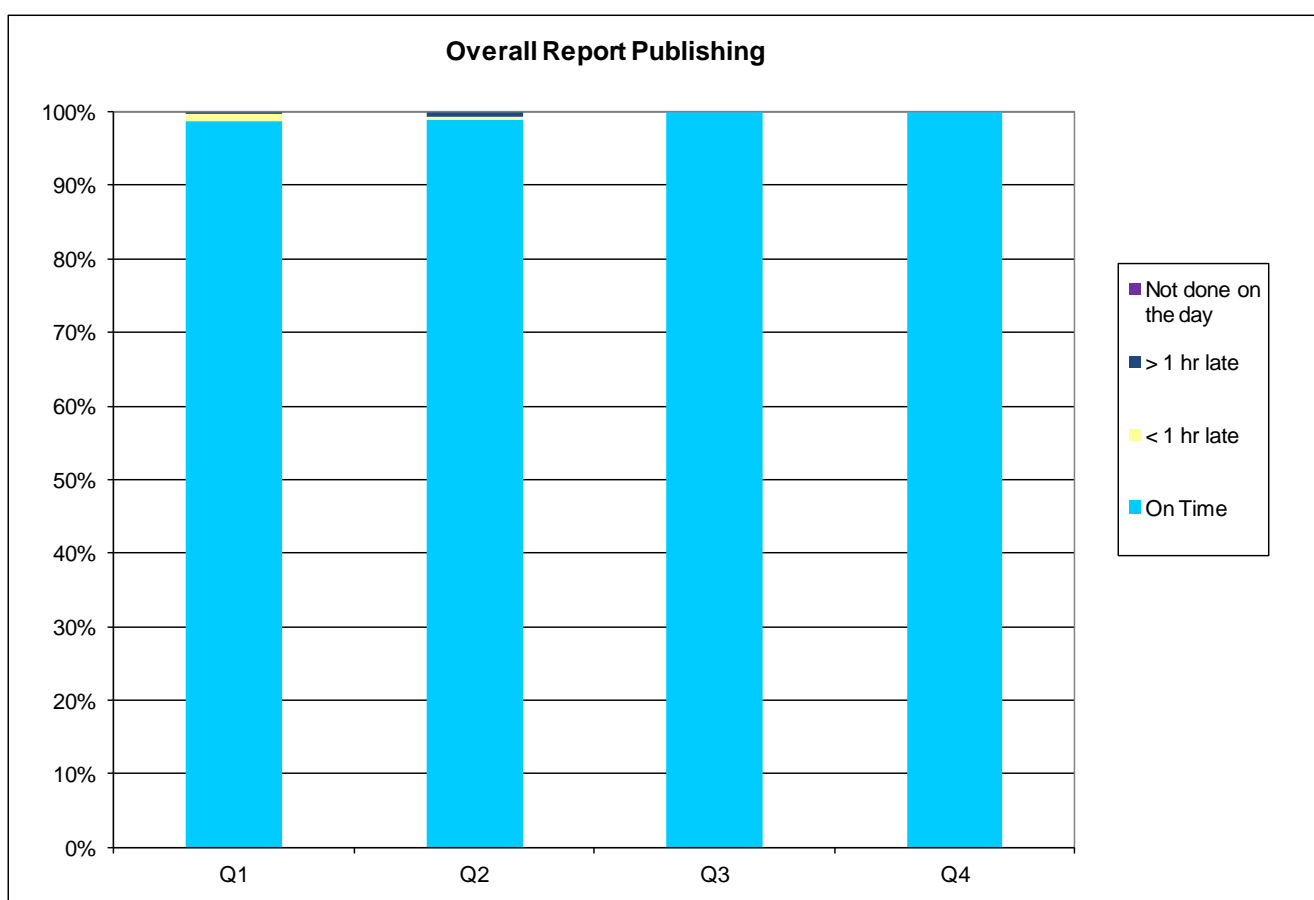


Figure 3 - Overall Daily report publication

Gate closure is a significant market event as all bids and offers are required to be captured at that point.

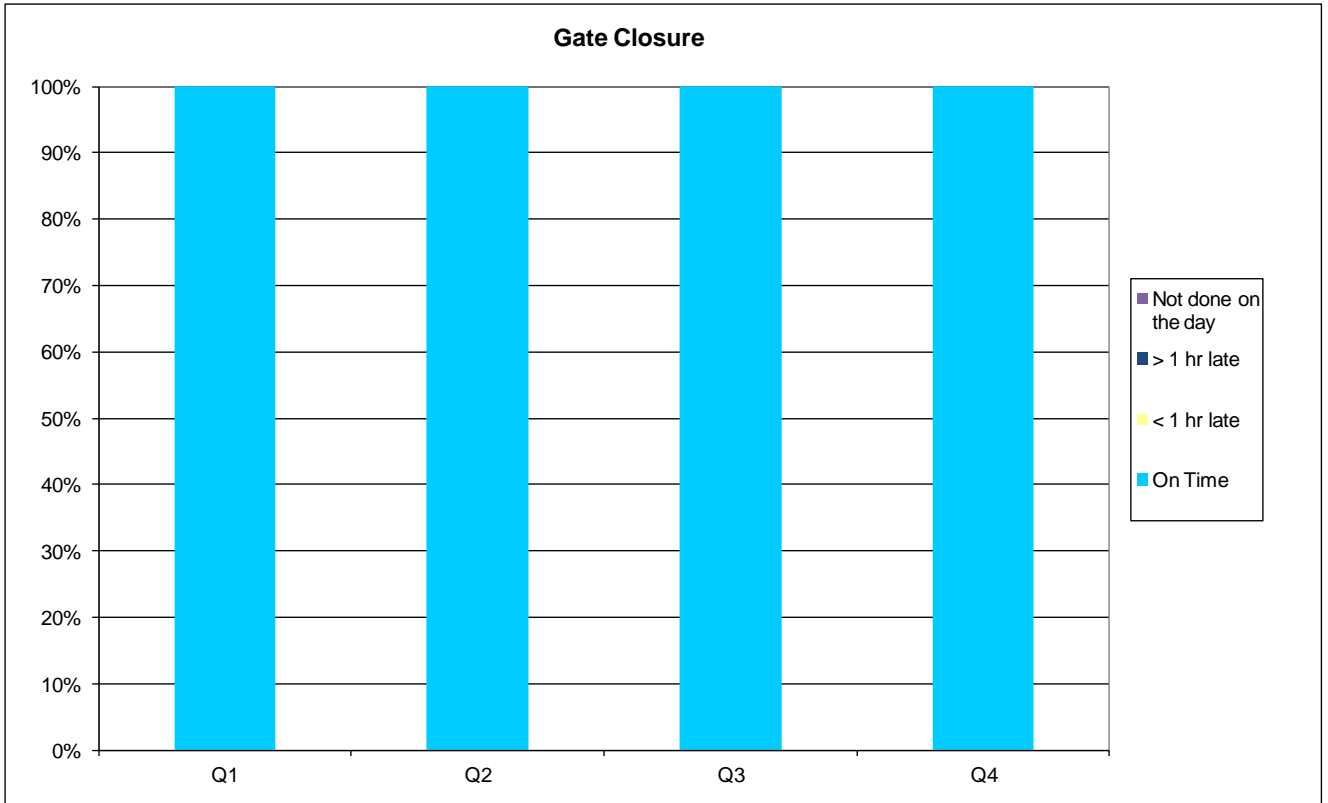


Figure 4 - Gate Closure performance

The initial Pricing and Settlement reports go out on a working day for the relevant calendar day. These reports are used in the final settlement of the market.

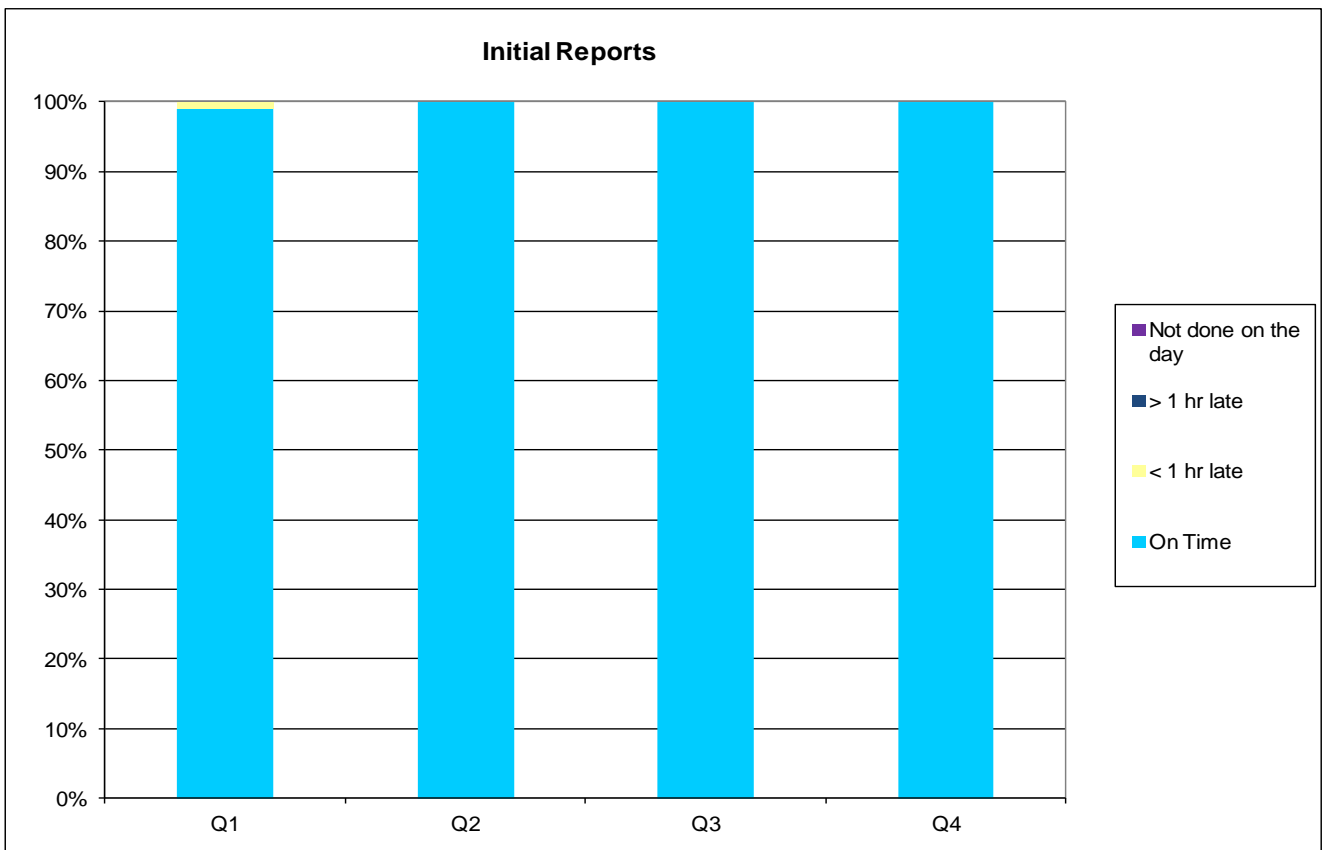


Figure 5 - Initial Report Performance

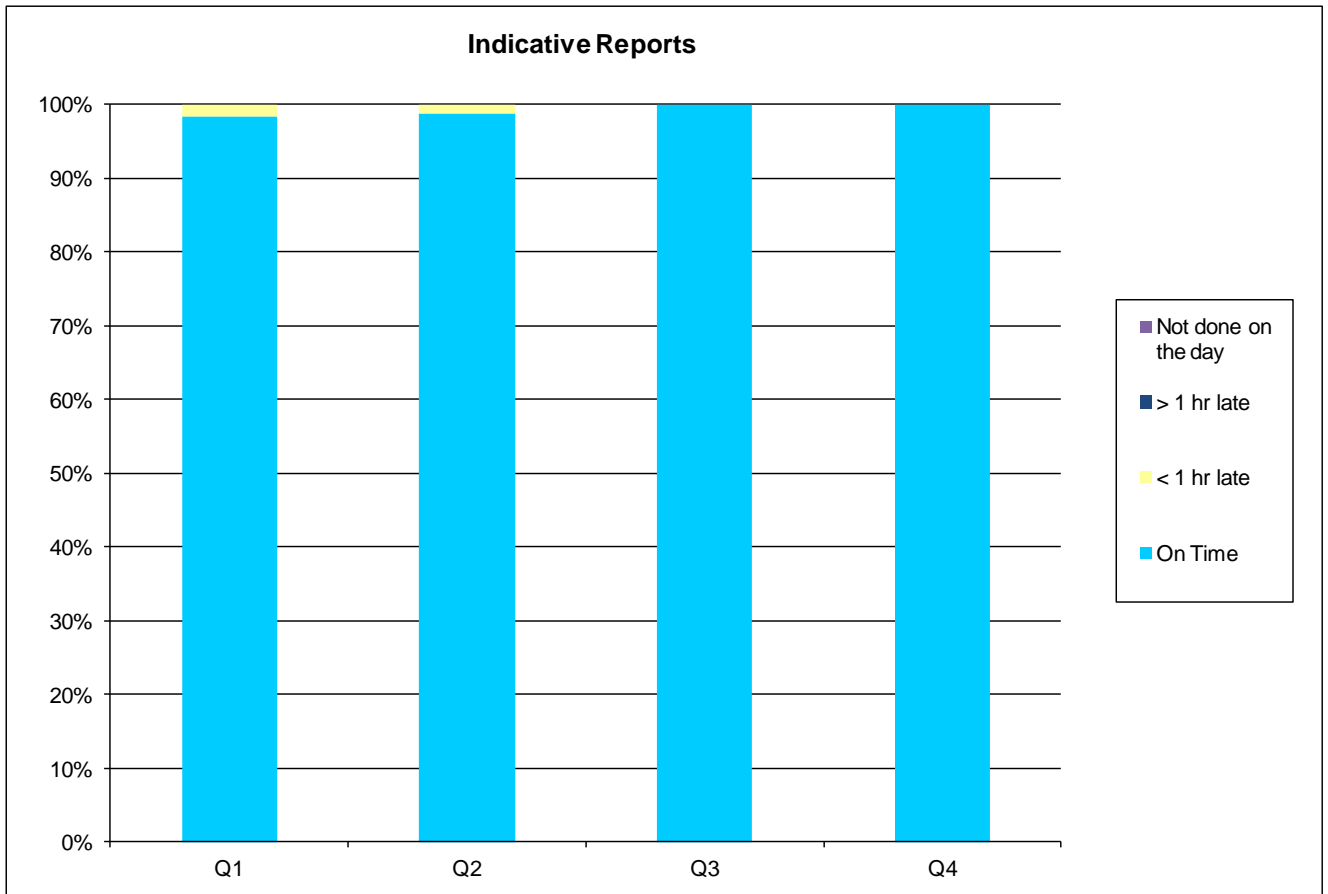


Figure 6 - Performance of Indicative Reports

3.2 Planned Re-Settlement M+4 & M+13

Resettlement occurred on time for the year as scheduled in the Settlement Calendar.

3.3 Ad-hoc Re-Pricing and Ad-hoc Resettlement Runs

There were no Ad-hoc re-pricing runs issued during Financial Year 2015 / 2016.

Ad-hoc Resettlements was carried out for 34 events. These were the result of incorrect Meter Data submissions, incorrect Dispatch Instructions or Actual Availabilities being sent by the respective TSO, operational errors by SEMO, as well as system defects.

More detailed narratives of each of these events can be found in the Quarterly reports.

3.4 Administration of Credit Cover

The SEM has been collateralised according to the T&SC provisions for the whole period from 1st October 2015 to 30th September 2016. At times, the collateralisation may be slightly less than the calculated requirement due to the time allowed by the T&SC for Participants to comply with a Credit Cover Increase Notice (CCIN). There was 1 CCIN that was not fully honoured within the two days allowed as per T&SC. However this CCIN was resolved by 5pm the next day.

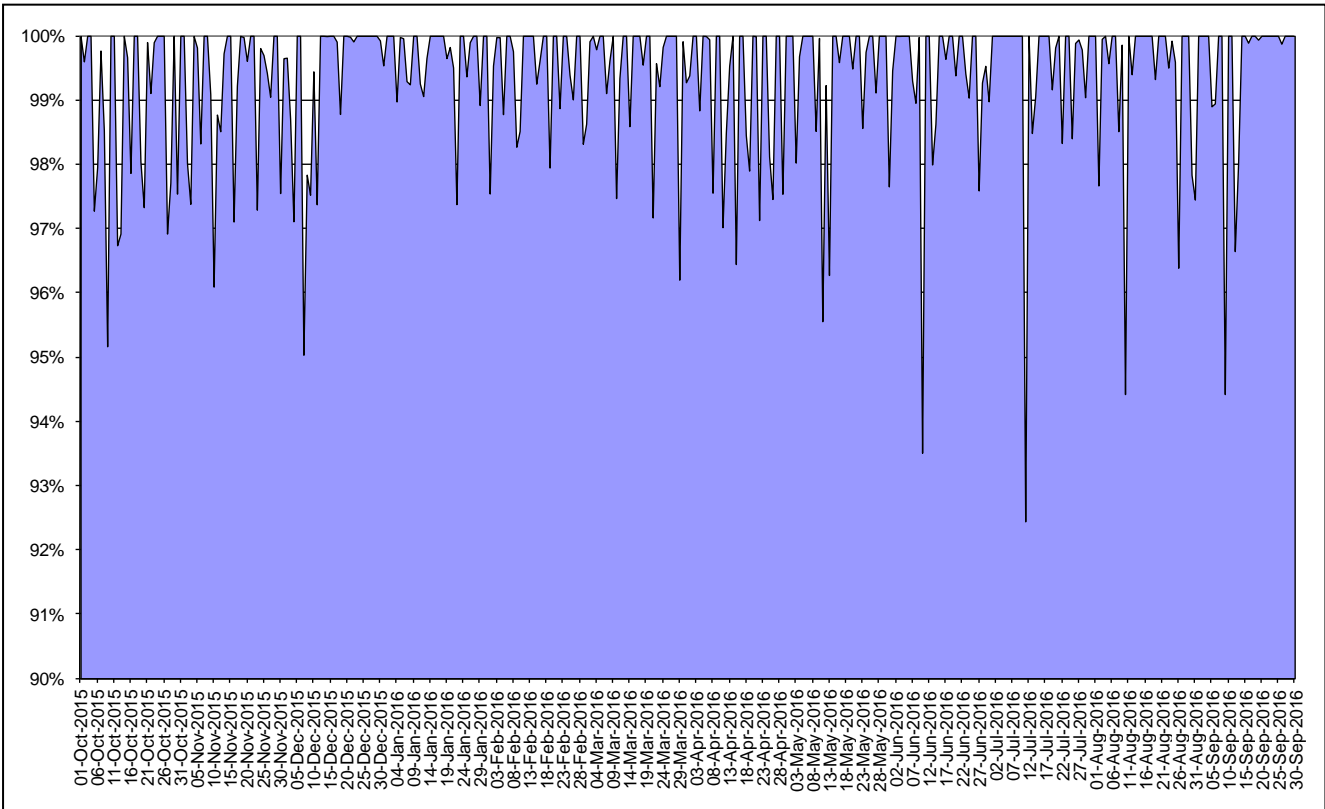


Figure 7 - Market Collateralisation

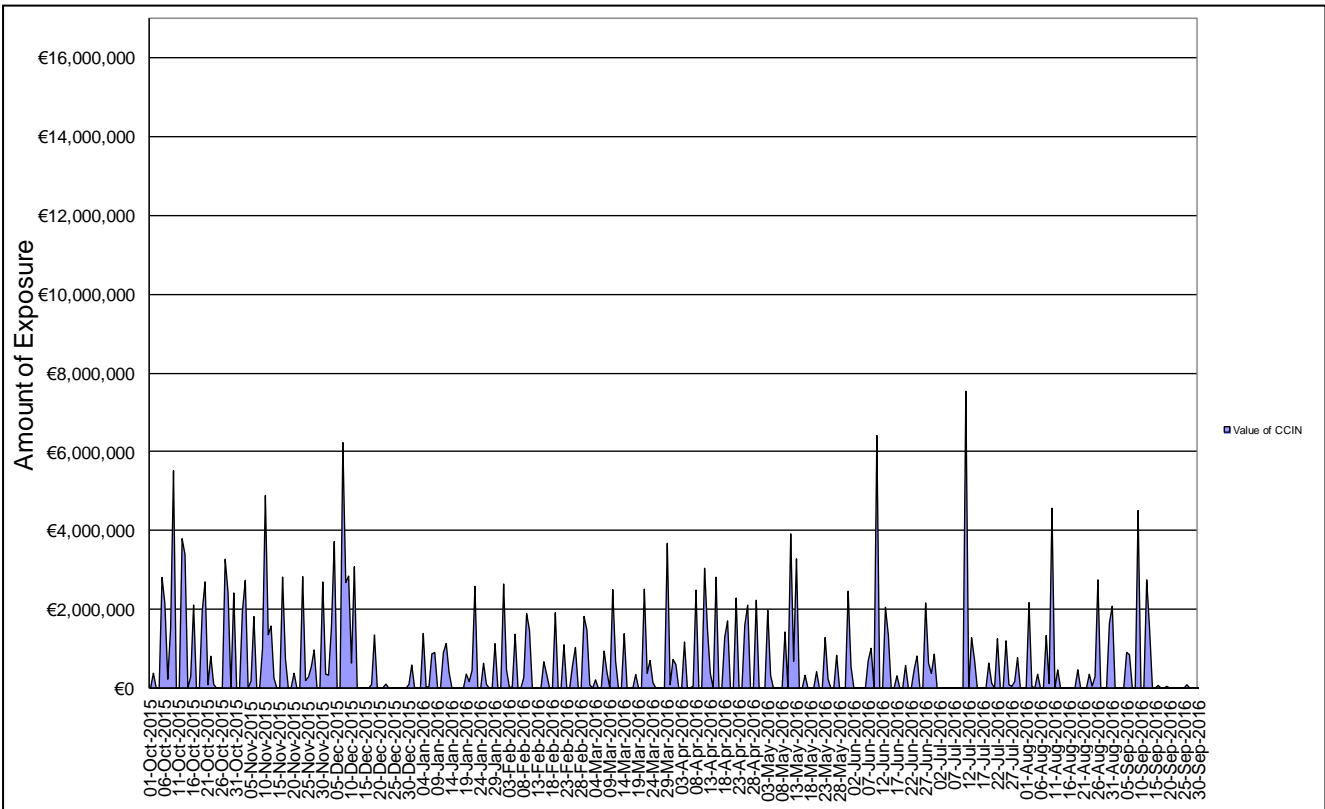


Figure 8 - Credit Cover Increase Notice Amounts per Day

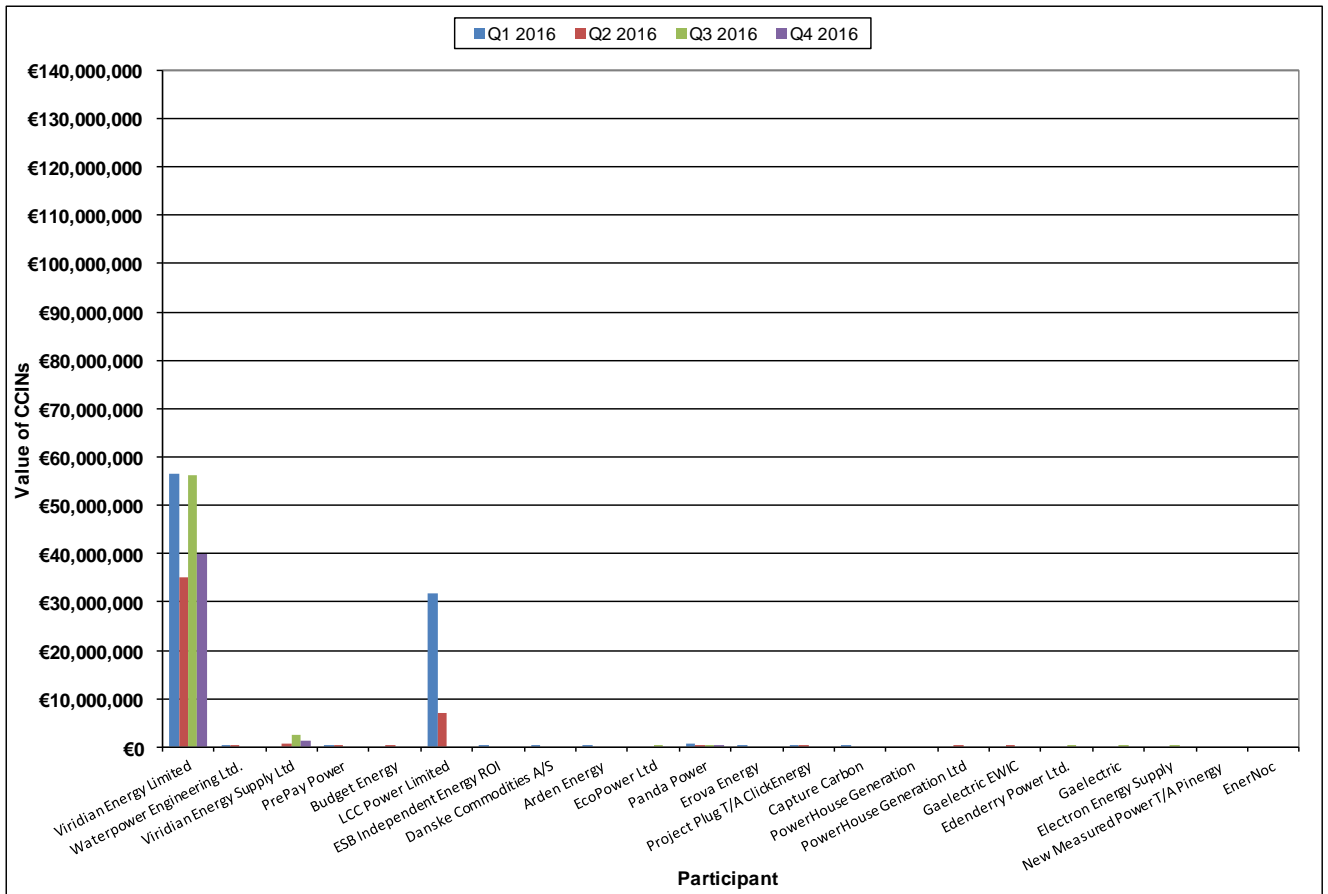


Figure 9 - Total Value of Credit Cover Increases by Participants

3.5 Breaches of the Trading and Settlement Code

SEMO is aware of 164 breaches of the T&SC in the period from 1st October 2015 to 30th September 2016. This is a decrease from last year's annual figure of 203 breaches. A breach of the T&SC can range from minor issues like a late receipt of a data feed to major ones like payment defaults leading to suspension from the Market. The breaches in financial year 2015/2016 were at the lesser end of non compliance with no significant breach identified in the period.

In total, SEMO were responsible for 28 of the total breaches. This is a decrease compared to last year's figure of 42 SEMO breaches. There were also 130 identified breaches by participants, down one from the same period last year.

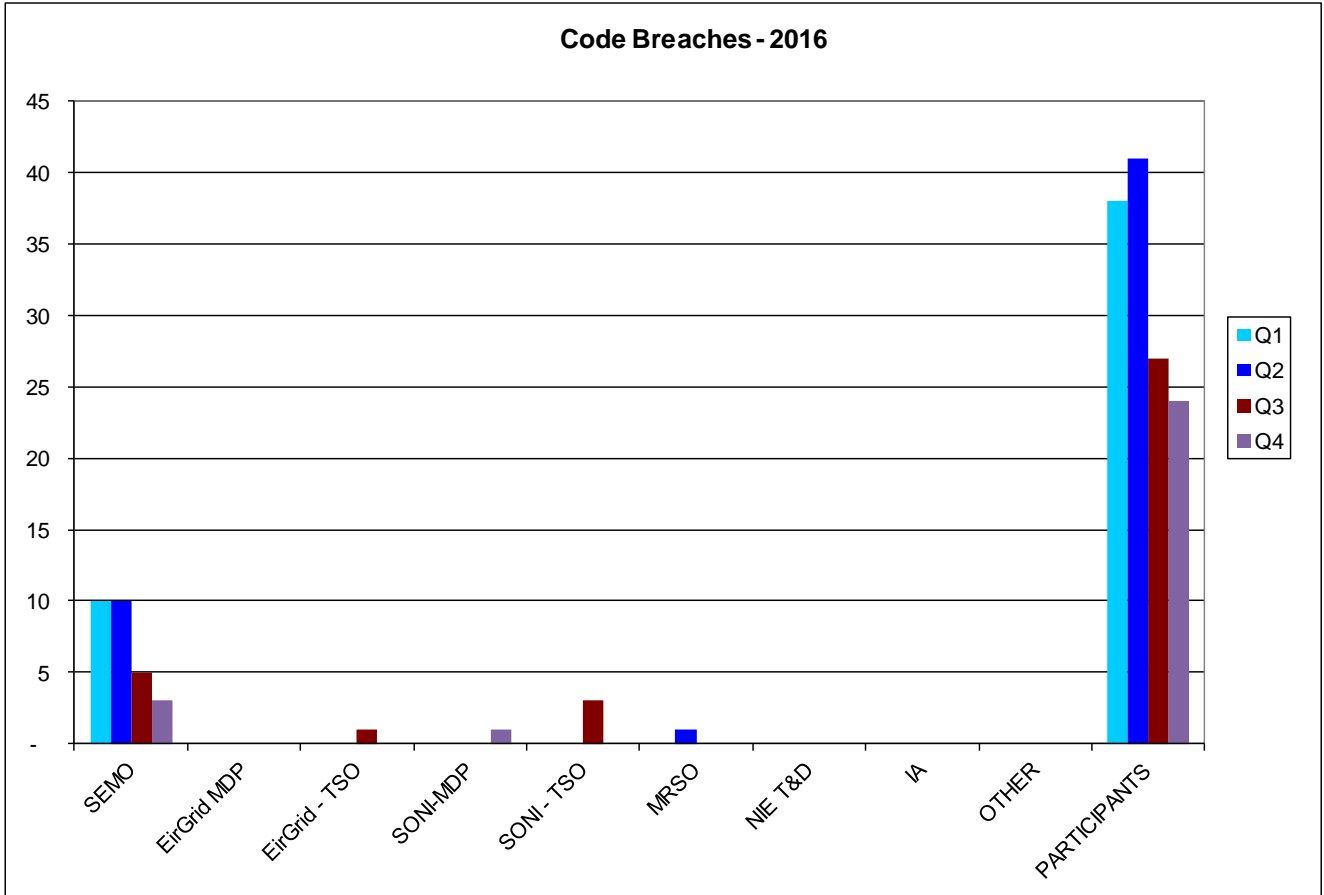


Figure 10- Number of Trading and Settlement Code Breaches

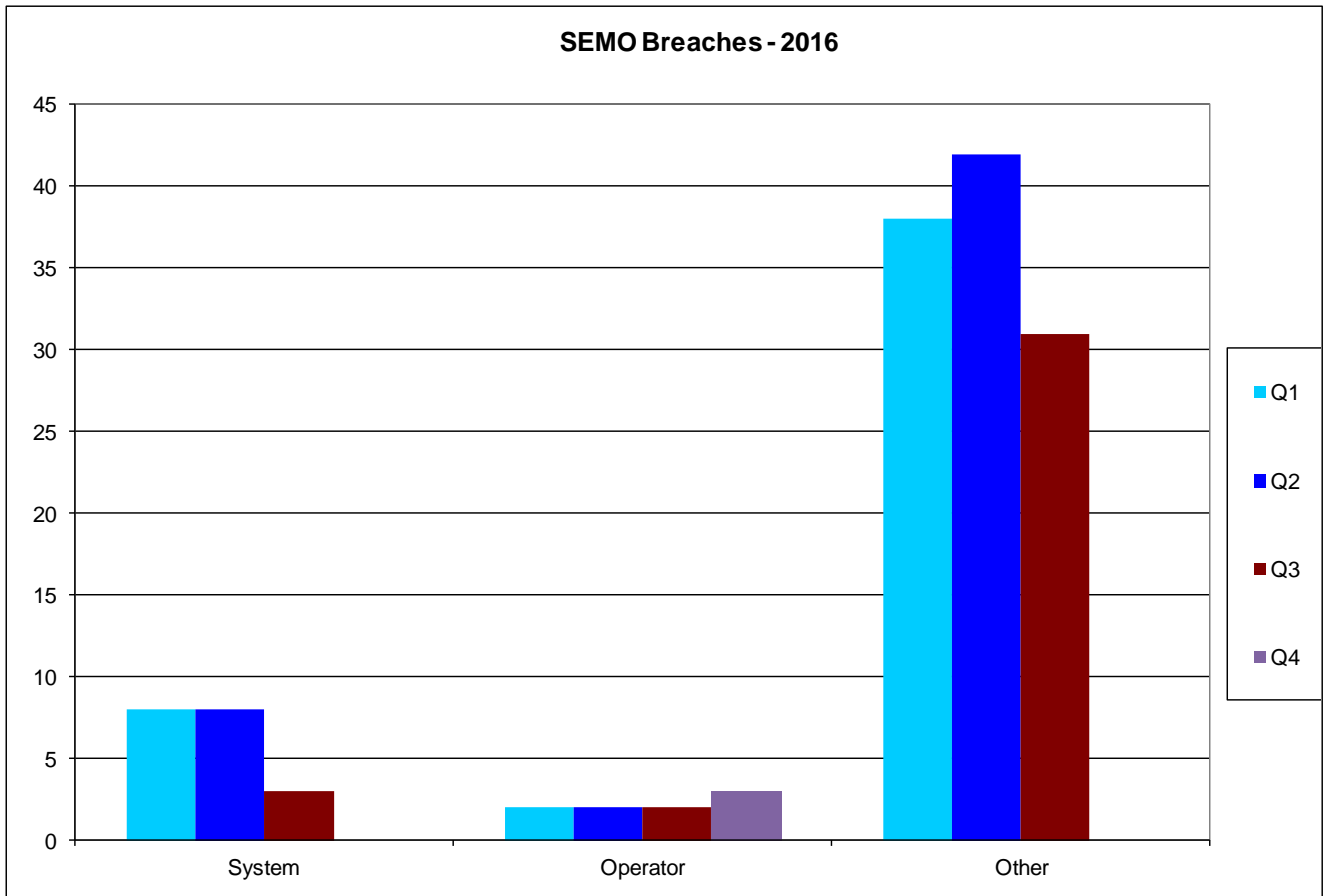


Figure 11 - Source of SEMO Trading and Settlement Code Breaches

4 Manage Stakeholders

4.1 Structured Approach to Regulatory interface

SEMO and the Regulatory Authorities have developed a good working relationship around a number of formal interactions. The highlights of 2015-2016 are summarised below:

- Market Operator Performance – Monthly, Quarterly and Annual reporting on SEMO operations and financials were issued throughout the year.
- Yearly parameters: MSP Software and Credit Cover parameters issued according T&SC requirements;
- Other reporting obligations – MSDP7 and KPI were also provided;
- Collaboration on ad hoc investigations into market outcomes;
- Ongoing collaboration in relation to Guarantees of Origin and Fuel Mix Disclosure including the Green Source Product Verification process;
- Ongoing collaboration for the delivery of the I-SEM design.

5 Provide Information

The Trading and Settlement Code (T&SC) obligates SEMO to answer formal, data and settlement queries within a given timeframes. In financial year 2015/2016, SEMO has received 79 Formal Queries; all were answered within the timelines prescribed under the T&SC.

General queries have no prescribed timelines for response however SEMO aims to answer these within 15 working days.

5.1 Customer Queries in a timely Manner

5.1.1 Query and Dispute Management:

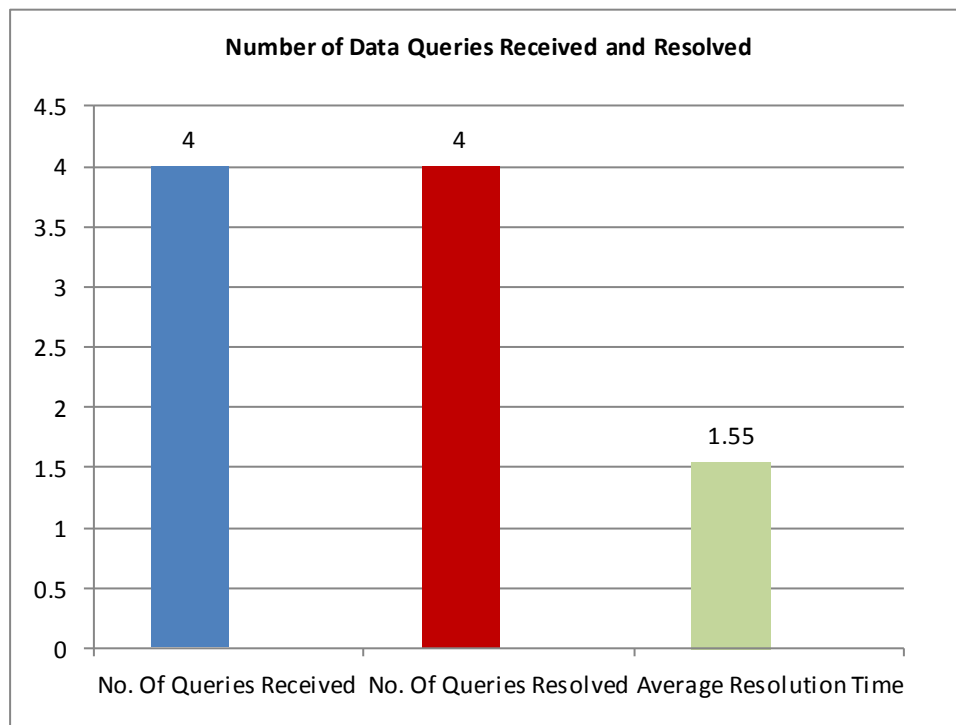


Figure 12 - Number of Data Queries submitted and Resolved up to 30th September 2016

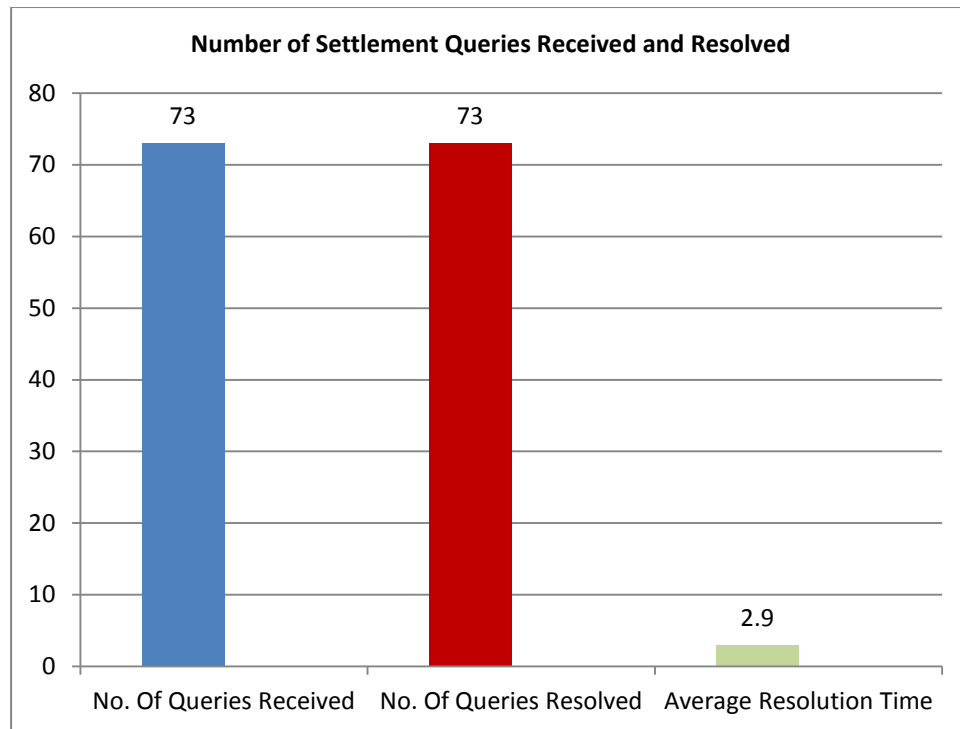


Figure 13 - Number of Settlement Queries submitted and Resolved up to 30th September 2016

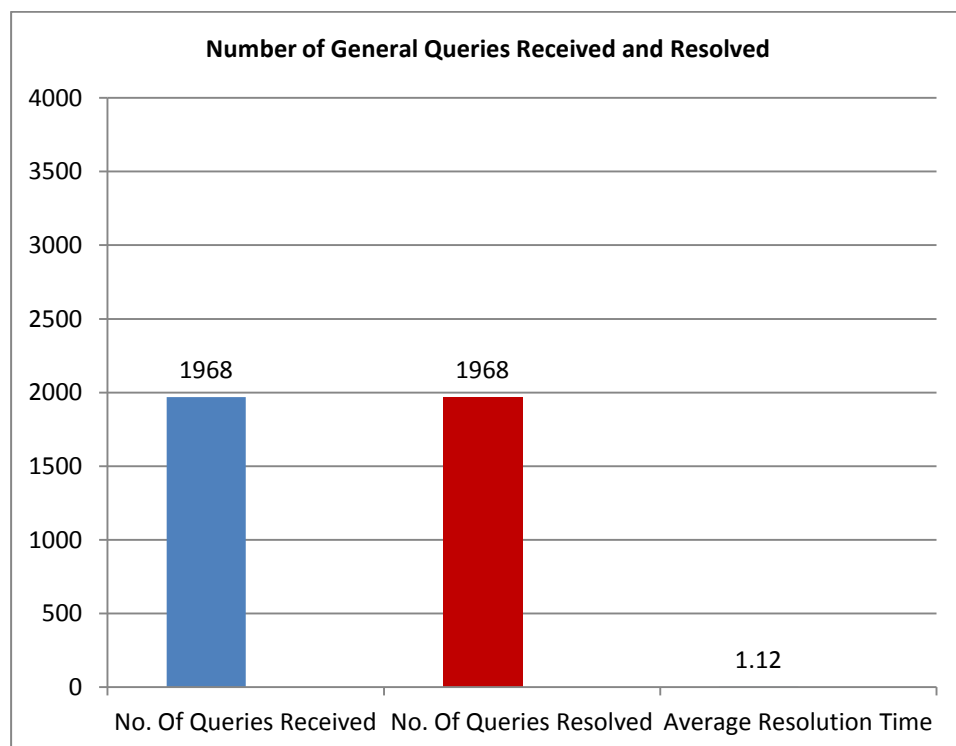


Figure 14 - Number of General Queries Submitted and Resolved up to 30th September 2016

The general query volumes have decreased from 2043 submitted in the previous financial year, to 1968 submitted from October 2015 to September 2016 (difference of 75).

A decrease of 75 can be attributed to:

- Updates to the Frequently Asked Questions on the SEMO website.

- SEMO are proactively engaging with Participants through a number of forums to help reduce the number of general queries submitted.
- A market currently winding down due to ISEM and less change implemented in the last financial year.



Figure 15- Average Working Days to Answer Queries up to 30th September 2016

Further commentary on the Formal Queries is provided in section [6.1](#).

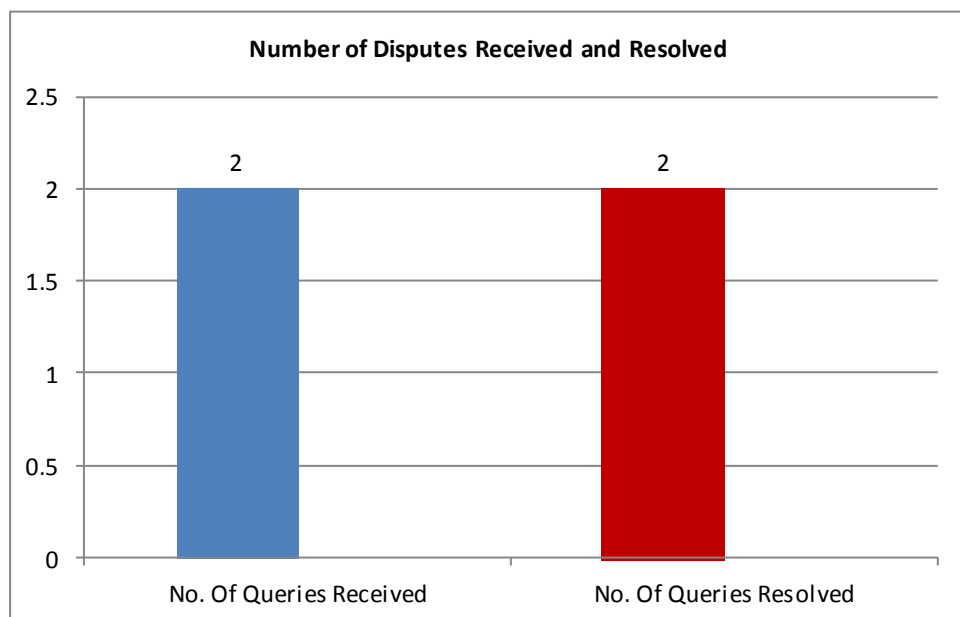


Figure 16 - 2 Formal Disputes between 1/10/15 and 30/09/16, all of which were resolved as of 28th of March 2016.

5.2 Facilitate and Educate participants to accede to the Code

Since 01st October 2015, the following participants have registered in the market.

<i>Party ID</i>	<i>Party Name / Participant Name</i>	<i>Jurisdiction</i>	<i>Effective Date</i>
PY_000143	Lightsource SPV10 Limited	NI	13/11/2015
PY_000151	NEAS Energy A/S	EU	06/11/2015
PY_000152	Dublin Waste to Energy Supply Limited	ROI	21/04/2016
PY_000153	Sliabh Bawn Supply Designated Activity Company	ROI	23/07/2016
PY_000154	Flogas Natural Gas Limited	ROI	25/05/2016
PY_000155	Lantanier Limited	ROI	14/06/2016
PY_000156	Green Grid Limited	ROI	14/07/2016
PY_000157	Gurteen Energy Supply Limited	ROI	23/07/2016
PY_000158	Meenacloghspar Supply Limited	ROI	14/07/2016
PY_000159	TrailStone GmbH	EU	27/08/2016
PY_000160	Dunman Energy Supply Limited	ROI	07/08/2016

Table 10 - Party Registrations

Since 1st October 2015, additional generation or supply units have been added to the following participants.

<i>Party</i>	<i>Unit ID</i>	<i>Jurisdiction</i>	<i>Unit Name</i>	<i>Effective Date</i>
PY_000135_Brookfield Renewable Energy 2 Limited	PT_400157_I_RIEWIC	ROI	Brookfield EWIC	08/10/2015
PY_000149_Gaelectric Interconnector Trading ROI Limited	PT_400170_I_RIEWIC	ROI	Gaelectric Interconnector Trading ROI	04/11/2015
PY_000142_DWL Energy Supply Limited	GU_411840	ROI	Boggeragh 2 Windfarm Netting Generator Unit	10/11/2015
PY_000142_DWL Energy Supply Limited	GU_401840	ROI	Boggeragh 2 Windfarm	10/11/2015
PY_000142_DWL Energy Supply Limited	SU_400186	ROI	DWL Energy Supply Limited	10/11/2015
PY_000021_Airtricity Ltd	PT_400037_I_RIEWIC	ROI	PT_400037_I_ROIEWIC	09/12/2015
PY_000026_Bord na Mona Energy Ltd.	GU_410140	ROI	Edenderry Netting Generator Unit	05/01/2016
PY_000026_Bord na Mona Energy Ltd.	GU_400140	ROI	Edenderry Generator Unit 1	05/01/2016
PY_000021_Airtricity Ltd	SU_400187	ROI	Edenderry Supply Company Limited	05/01/2016
PY_000147_Edenderry Supply Company Limited	GU_411860	ROI	Edenderry Power Supply Netting Generator Unit	05/01/2016
PY_000147_Edenderry Supply Company Limited	GU_401860	ROI	Edenderry Power Supply	05/01/2016
PY_000146_Captured Carbon Limited	SU_400191	ROI	Captured Carbon Limited	05/01/2016
PY_000021_Airtricity Ltd	PT_400171_	ROI	Neas Energy A/S	04/02/2016

	I_RIEWIC			
PY_000136_Gaelectric Energy Marketing and Supply Ltd.	SU_400184	ROI	Gaelectric Energy Marketing and Supply Ltd	01/03/2016
PY_000088_Activation Energy Ltd	GU_411850	ROI	Activation Energy (AE5) Netting Generator Unit	12/04/2016
PY_000088_Activation Energy Ltd	DSU_401850	ROI	Activation Energy (AE5)	12/04/2016
PY_000088_Activation Energy Ltd	SU_400188	ROI	Activation Energy (AE5)	12/04/2016
PY_000088_Activation Energy Ltd	GU_411800	ROI	Activation Energy (AE4) Netting Generator Unit	10/05/2016
PY_000088_Activation Energy Ltd	DSU_401800	ROI	Activation Energy (AE4)	10/05/2016
PY_000088_Activation Energy Ltd	SU_400183	ROI	Activation Energy	10/05/2016
PY_000080_Electron Energy Limited	SU_400144	ROI	Electron Energy Ltd (Supplier Unit)	21/06/2016
PY_000154_Flogas Natural Gas Limited	SU_400196	ROI	Flogas	21/06/2016
PY_000141_Axpo Trading AG	PT_400164_I_RIEWIC	ROI	Axpo	19/07/2016
PY_000148_Pinergy	SU_400189	ROI	New Measured Power Ltd T/A Pinergy	02/08/2016
PY_000148_Pinergy	SU_400190	ROI	New Measured Power Ltd T/A Pinergy	02/08/2016
PY_000114_Electricity Exchange Limited	GU_411870	ROI	Electricity Exchange 2 Netting Generator Unit	23/08/2016
PY_000114_Electricity Exchange Limited	DSU_401870	ROI	Electricity Exchange 2	23/08/2016
PY_000114_Electricity Exchange Limited	SU_400192	ROI	Electricity Exchange 2	23/08/2016
PY_000122_Dalkia Alternative Energy Limited	GU_411880	ROI	Veolia Alternative Energy Ireland Ltd. Netting Generator Unit	30/08/2016
PY_000122_Dalkia Alternative Energy Limited	DSU_401880	ROI	Veolia Alternative Energy Ireland Limited	30/08/2016
PY_000122_Dalkia Alternative Energy Limited	SU_400193	ROI	Veolia Alternative Energy Ireland Ltd	30/08/2016
PY_000043_Viridian Energy Limited	GU_411920	ROI	Meenadreen South 2 Windfarm Netting Generator Unit	20/09/2016
PY_000043_Viridian Energy Limited	GU_401920	ROI	Meenadreen South 2 Windfarm	20/09/2016
PY_000043_Viridian Energy Limited	GU_411930	ROI	Mulreavy Windfarm Netting Generator Unit	20/09/2016
PY_000046_ESB	GU_411940	ROI	Raheenleagh Windfarm	20/09/2016

Independent Energy ROI			Netting Generator Unit	
PY_000046_ESB Independent Energy ROI	GU_401940	ROI	Raheenleagh 1 Windfarm	20/09/2016

Table 11 - Unit Registrations

Since 1st October 2015, the following units have de-registered or had a change in classification type

Party ID	Party Name / Participant Name	Unit ID	Type of Registration	Jurisdiction	Generation or Supply	Effective Date
PY_000080	PT_400074 Electron Energy Limited	SU_400144	De-Registration	ROI	Supply	21/06/2015
PY_000027	PT_400066 Bord Gais Energy Supply	GU_401820	Unit Type Change – APTG - VPTG	ROI	Generation	01/12/2015
PY_000032	PT_400034 Hibernian Wind Power Ltd	GU_401680	Unit Type Change – APTG - VPTG	ROI	Generation	15/12/2015
PY_000027	PT_400066 Bord Gais Energy Supply	GU_401540	Unit Type Change – APTG - VPTG	ROI	Generation	17/11/2015
PY_000136	PT_400162 Gaelectric Energy Marketing & Supply Limited	GU_401830	Unit Type Change – APTG - VPTG	ROI	Generation	05/04/2016
PY_000042	PT_500032 Viridian Energy Supply Limited	GU_501400	Unit Type Change – APTG - VPTG	NI	Generation	08/09/2016

Table 12 - Deregistration or Changes of Status

5.3 Facilitate Interaction with Customers

5.3.1 Stakeholder Events

SEMO is proactive in interaction with its stakeholders. In the past 12 months SEMO have organised/facilitated in:

- 4 Market Operator User Groups Conference Calls (MOUGs Conference Calls)
- Facilitated Participant Readiness calls for new Market Participants as required

- SEM registration have hosted 6 new participant SEM Overview & training sessions
- SEMO presented to Ho Chi Minh City Power Corporation during their visit to EirGrid
- Organised and facilitated a series of conference calls and workshops as part of the SEM R2.8.0 Release Testing

6 SEM Review

6.1 Formal Queries

Since Market go live in Nov 2007, SEM has observed a continuing reduction in the volume of queries submitted by Participants until financial year 2010/2011. At that point, the number of Formal Queries started to increase again and until reverting to 2010 level within 2015/2016 with continued reduction, as per Figure 16 below.

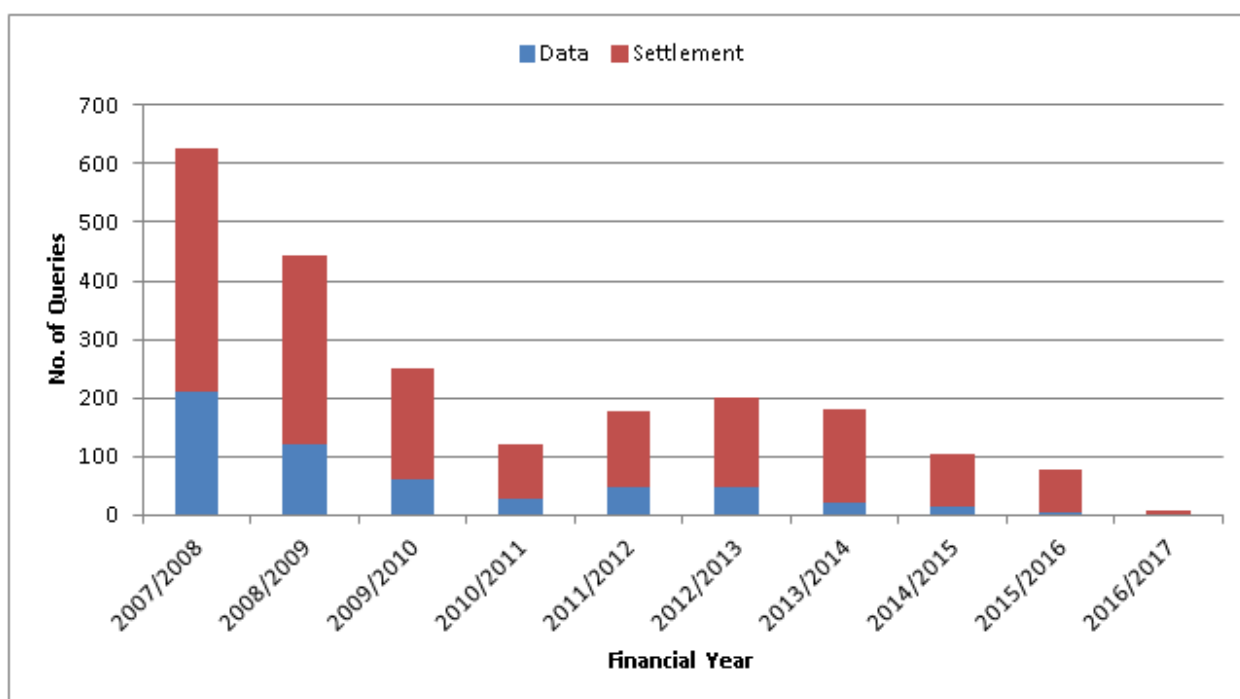


Figure 16 – Number of Formal Data and Settlement Queries Received per Year

A decrease of issues relating to the major releases introducing significant additional functionalities from 2012 (Intra-Day Trading, Global Aggregation, MIUN calculator etc), has been observed. Additional functionalities (and associated issues resulting from these changes) have contributed to the increase of formal queries received until Financial Year 2014/2015 where there has been a reduction of 42% compared to the previous year and a continuing reduction of 25% through 2015/2016. The stabilization of issues and minimized major deployment resulting in further defects have contributed to the decrease. Details are included in Table 13 below.

YEAR	DATA	SETTLEMENT	TOTAL	% CHANGE
2007/2008	209	418	627	-
2008/2009	122	322	444	-29%
2009/2010	62	190	252	-43%
2010/2011	25	95	120	-52%
2011/2012	47	130	177	48%
2012/2013	47	155	202	14%
2013/2014	22	157	179	-11%
2014/2015	15	89	104	-42%
2015/2016	4	74	78	-25%

Table 13 - Formal Data and Settlement Queries Received

The breakdown of the reasons behind Data Queries received is shown in Figure 17 below.

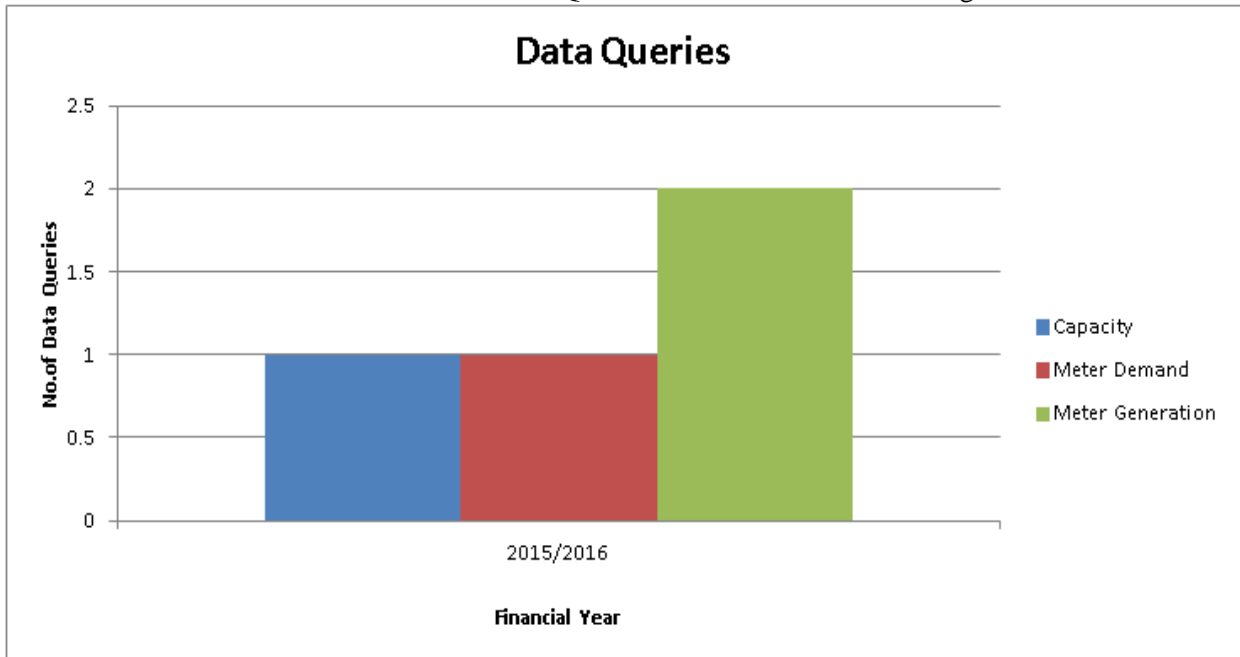


Figure 17 - Data Queries by subject matter

The most common resolution for Data Queries, shown in Figure 18, were confirmations of errors in input data. Two of the four data queries were upheld. The not upheld data query was down to the understanding of the T&SC.

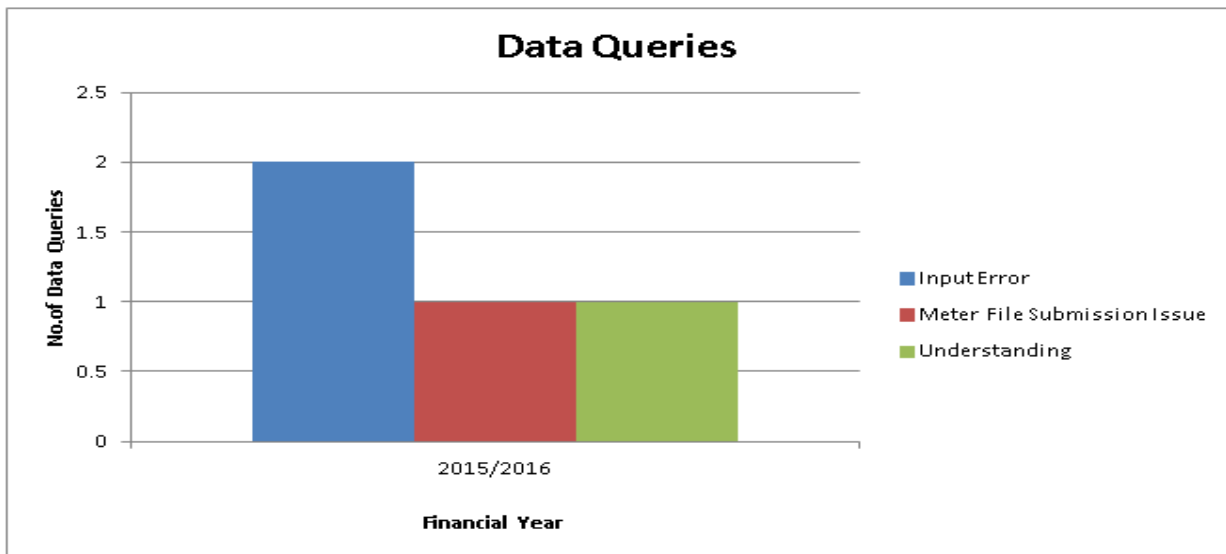


Figure 18 - Responses to Data Queries

With regards to Settlement queries, Figure 19 below shows the breakdown of queried items for financial year 2015/2016:

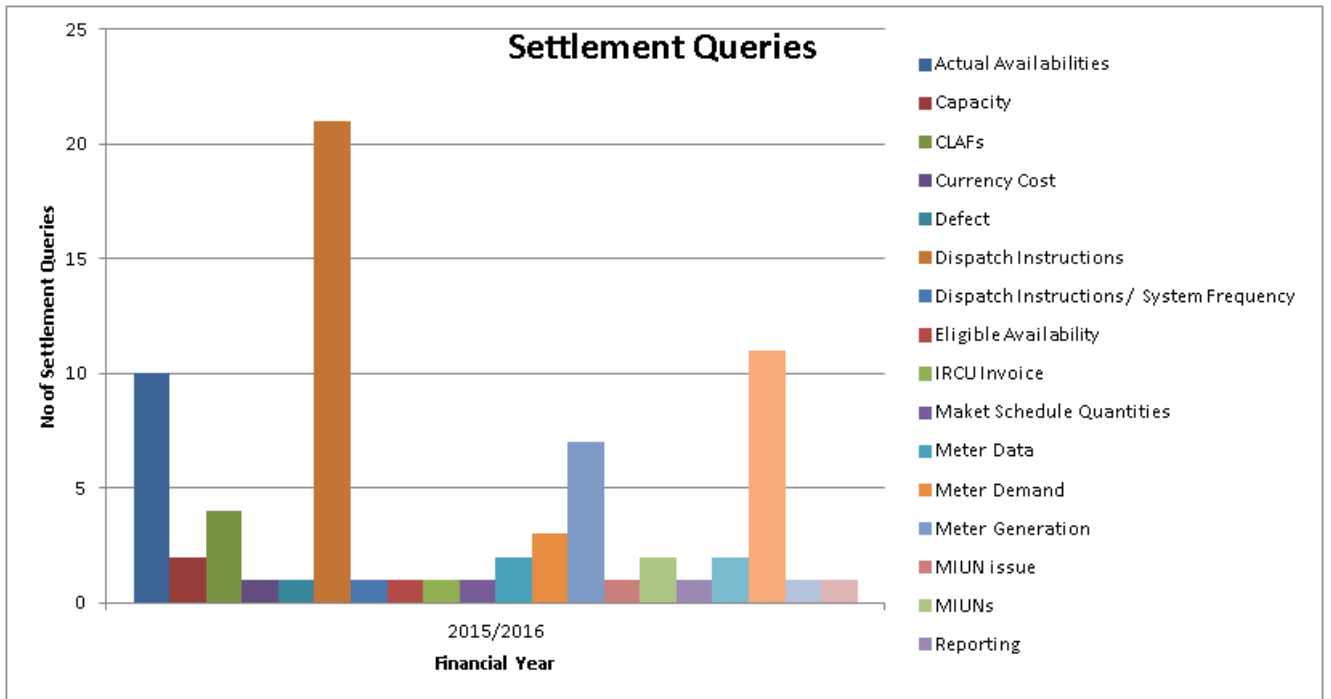


Figure 19 - Settlement Queries by subject matter

The most common Settlement Queries received were on Availability, Dispatch Instructions, System Operator Trades and Metered Generation, although the numbers have reduced compared with previous financial year.

Figure 20 shows that the vast majority of all Settlement Queries were due to incorrect input data sent to the SEM. SEMO recognises that improvements have been made to processes from data providers to try and reduce these errors and will continue to actively liaise with the relevant parties to highlight and resolve issues in a timely manner.

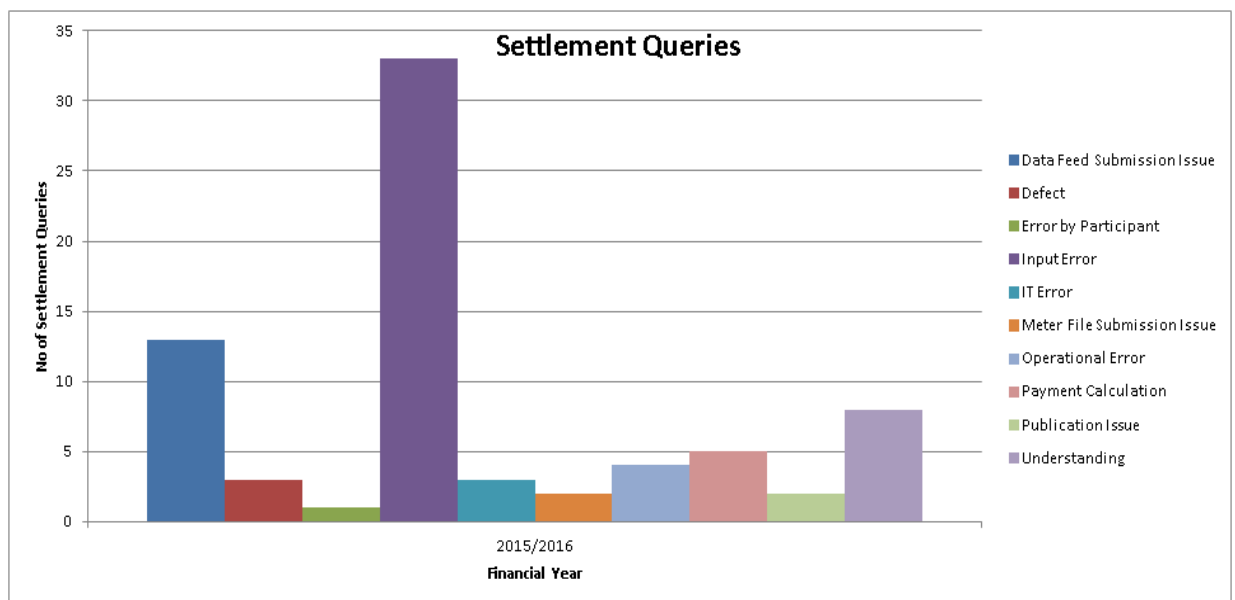


Figure 20 - Responses to Settlement Queries

The overall trend for all Formal queries since Market go live, confirms that the number of spurious queries has diminished and that queries not upheld now represent a minority of all queries received.

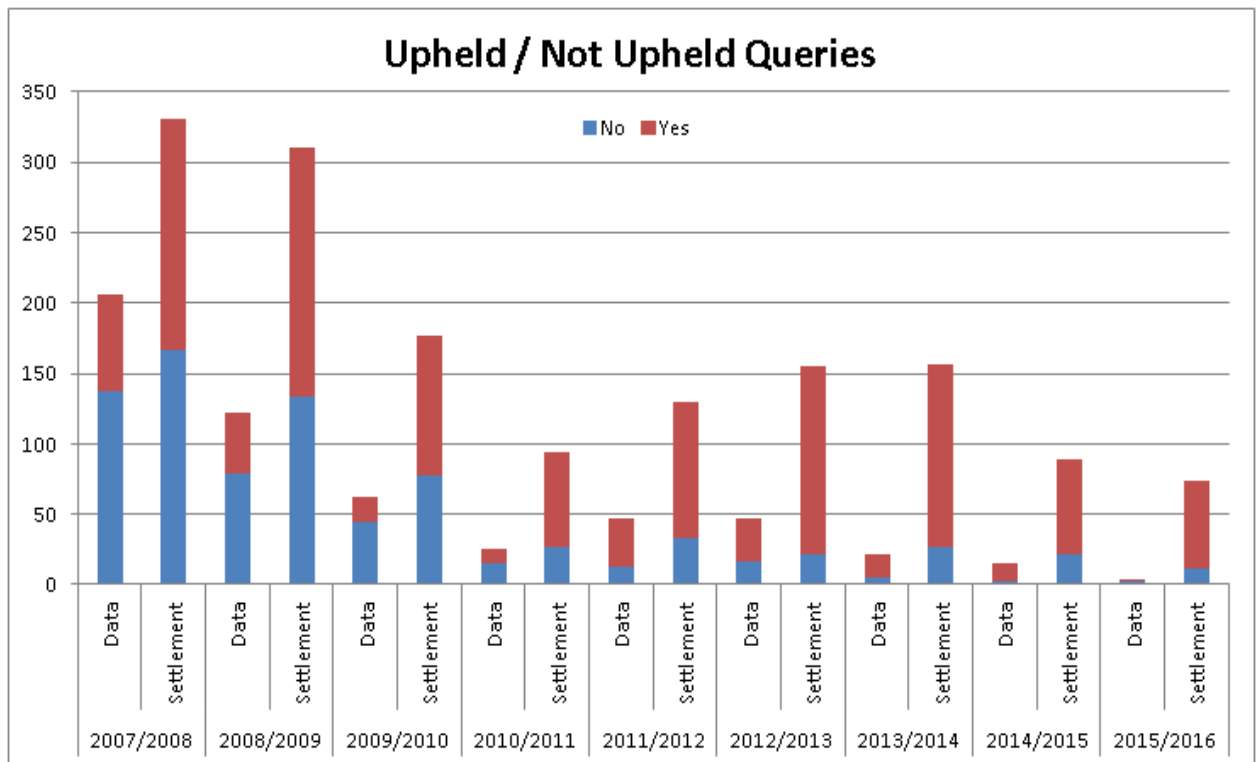


Figure 21 – Upheld (‘Yes’)/Not Upheld (‘No’) Formal Queries

Figure 22 below shows that out of all queries not upheld the majority of them were due to incorrect understanding or for confirmation that the data queried was, in fact, correct.

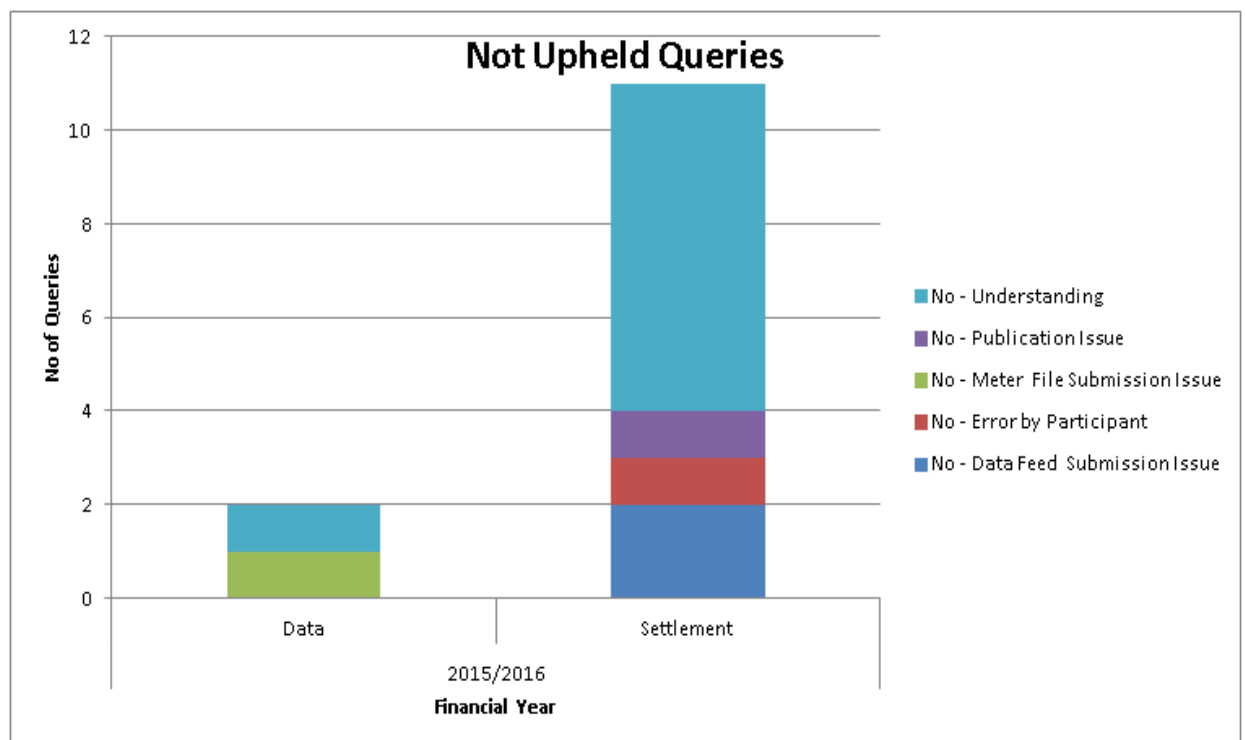


Figure 22 – Formal Queries Not Upheld by response type – Financial year 2015/2016

The following two graphs in Figure 23 and Figure 24 show the response times for Data and Settlement Queries compared with the previous year. Queries continue to be responded to within the required timelines set out in the Trading & Settlement Code¹. In Figure 23 it can be observed that there were no extensions required for data queries submitted this year. Requests for 10 Day extensions to the timeline were heavily used in the first years of market operations. Response time continue to be below the T&SC maximum allowed, however at times SEMO has delayed closing off some queries to allow efficient scheduling of runs in Market Operations.

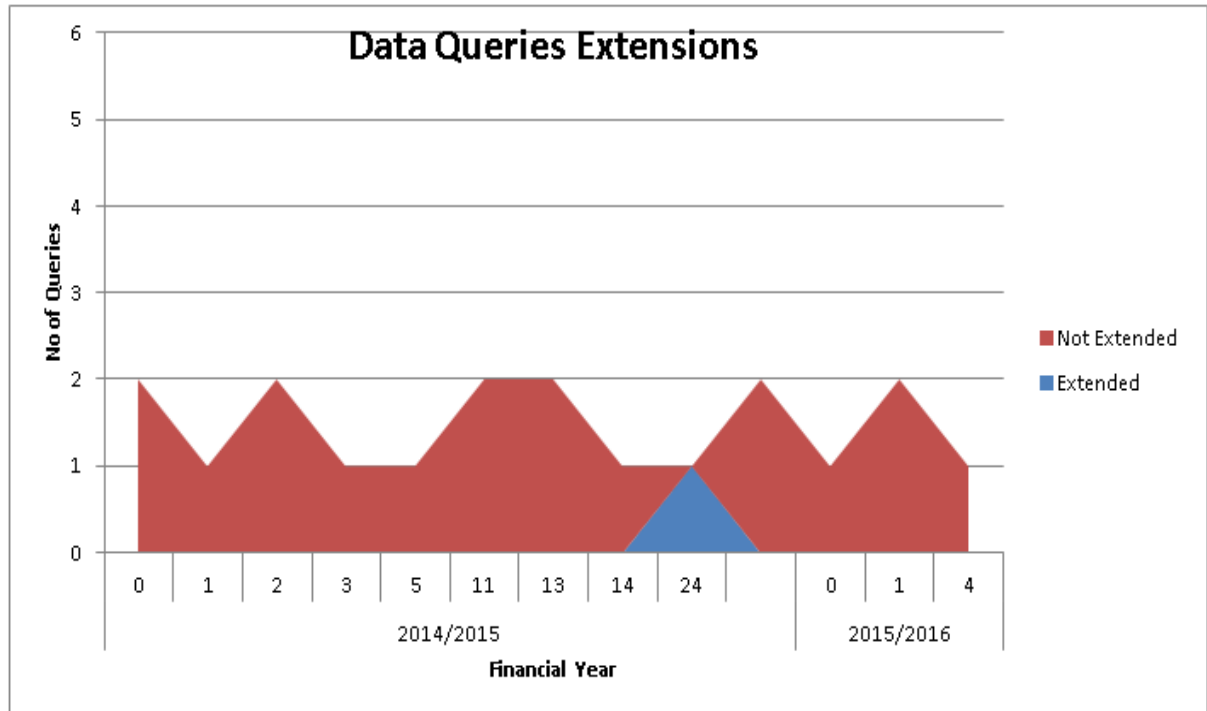


Figure 23 – Response Times for Data Queries

The same is shown in Figure 24 below for Settlement Queries. There were no query extensions required in the observed period 2015/2016.

¹ Please note that graph shows number of actual days instead of working days; this explains how some queries seems to exceed the T&SC timelines. This is particularly evident in the Data Query graph as a number of queries were responded after the Christmas break.

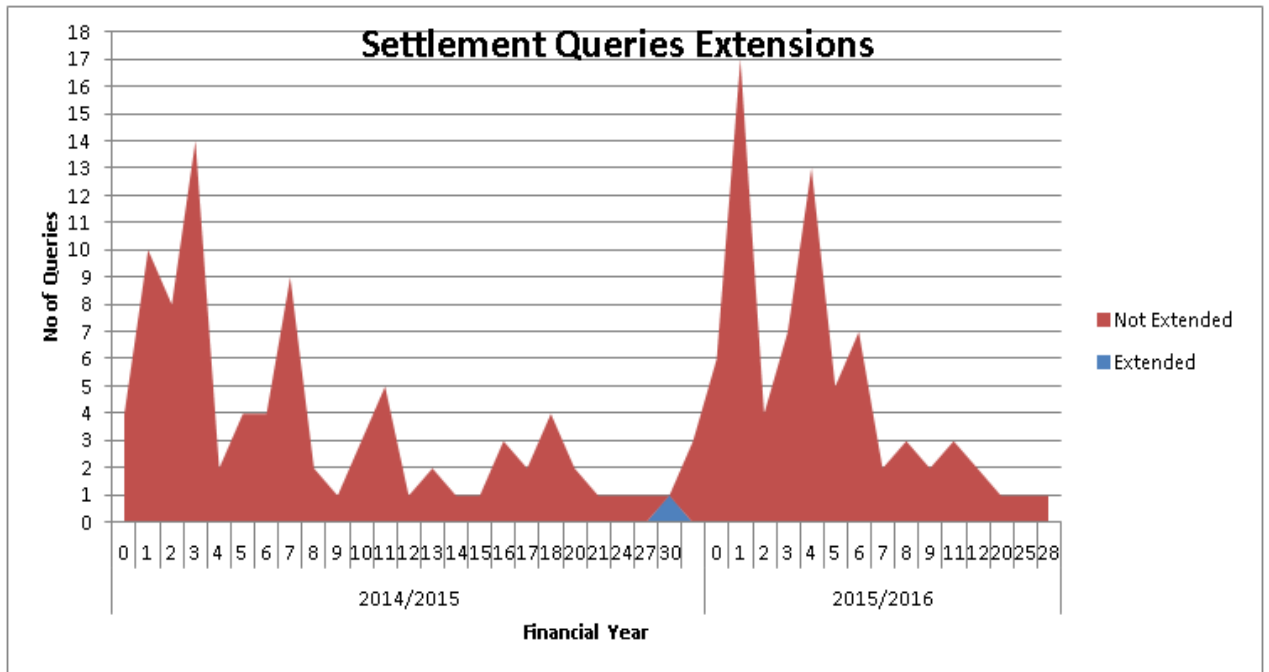


Figure 24 - Response Times for Settlement Queries

6.2 Market Review

Figure 25 below shows the summed Daily Generator Availability and the Load Weighted Average System Marginal Price across the financial year being reported.

The Availability over the current financial year was greater than previous year and also more stable, reflected in a less volatile SMP with fewer spikes than previous years.

Volume weighted average SMP was also lower than the previous year. In financial year 2014/2015 this was €56.10 compared to €41.40 in current financial year 2015/2016.

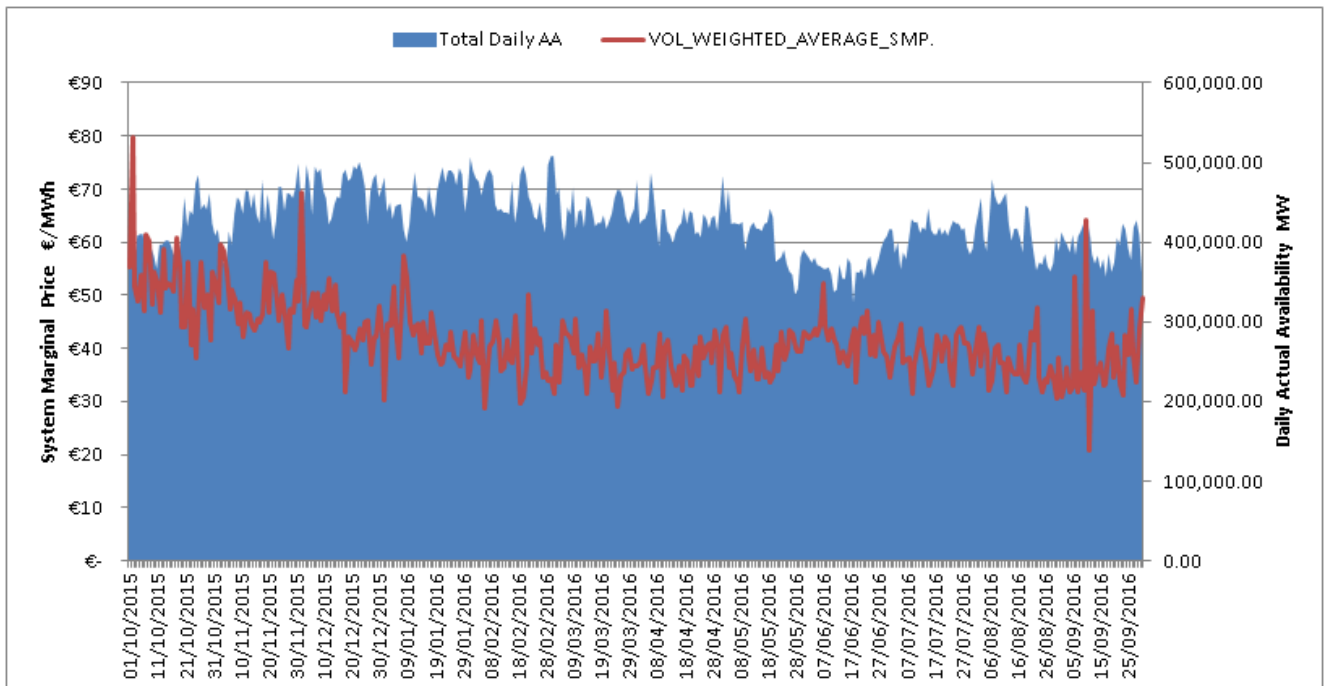


Figure 25 – Daily Total Availability and Volume Weighted Average SMP

In Figure 26 below, it is shown how the SMP highest spike occurred at the highest Demand point which happened at the same time of an Availability dip.

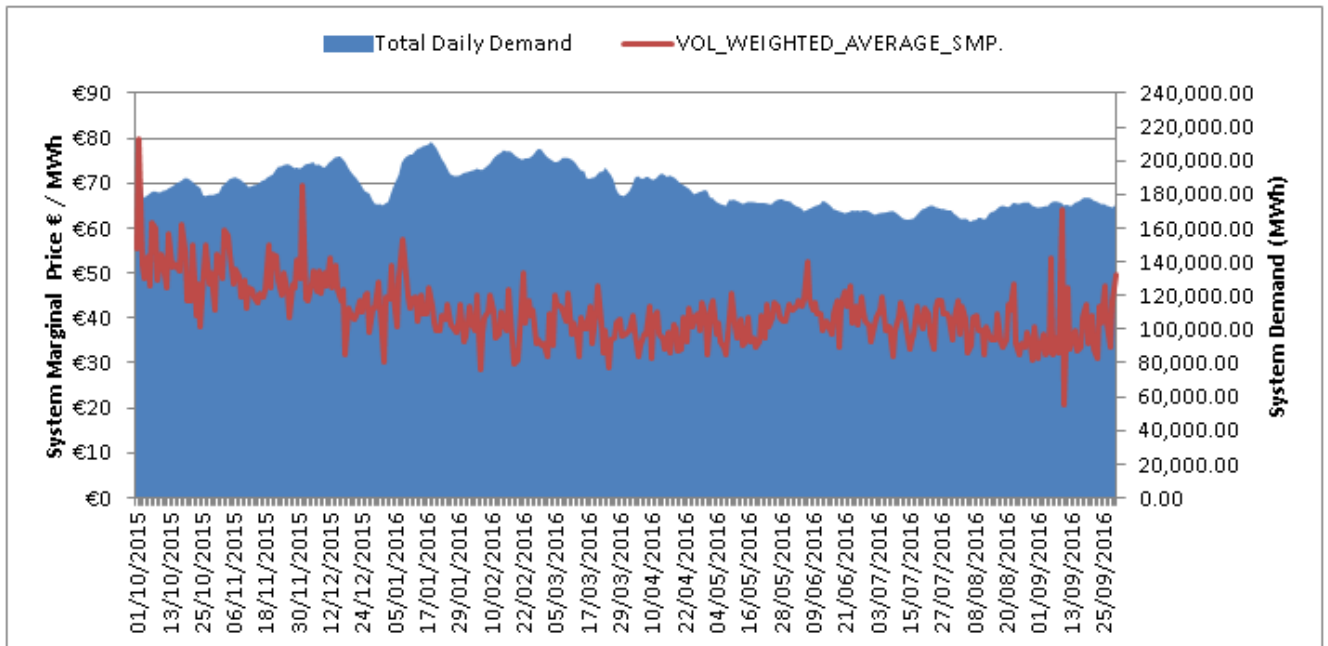


Figure 26 – Total Daily Metered Demand and Volume Weighted Daily SMP

Figure 27 compares the total monthly metered demand values for each year since 2010. Demand level for calendar year 2014/2015 and 2015/2016 were on a par with the previous year just marginally higher but still well short of the level observed in 2010.

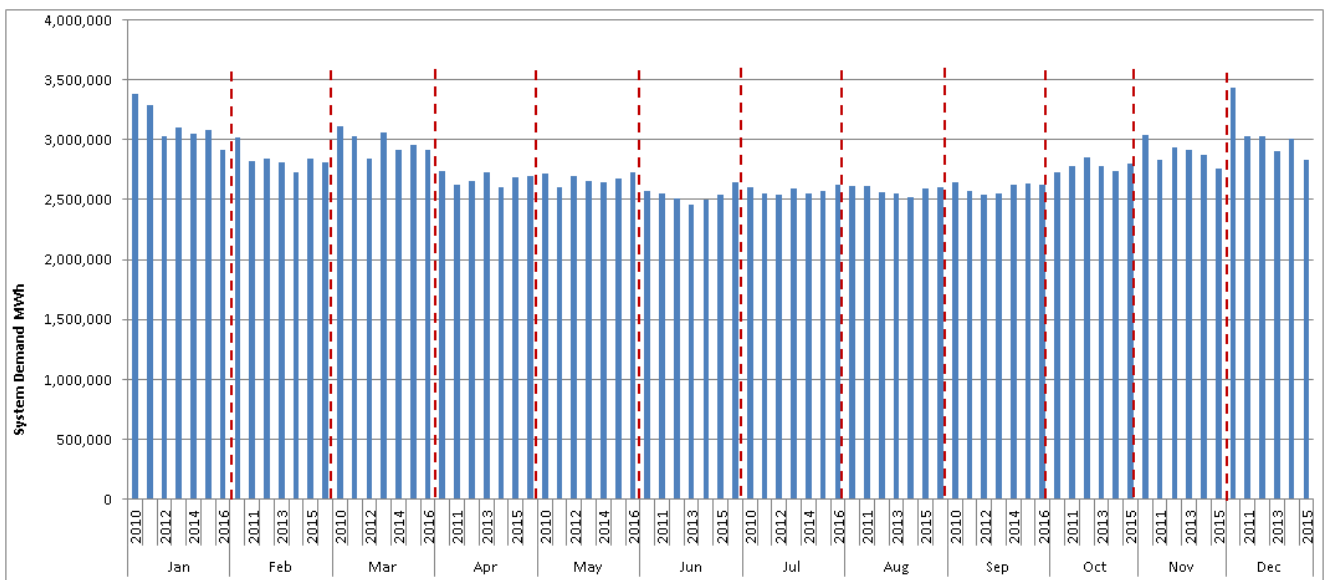


Figure 27 – Total Monthly Metered Demand, Jan 2010 to Sept 2016 Comparison

Throughout the year, variations in Demand and the Availability of plants lead to significant changes in Margin. When Margin is compared to Load Weighted Average SMP, it is clearly visible how the SMP is inversely affected by the Margin. Similarly to previous years, a pattern is discernible in Figure 28 with the highest price spikes over the periods of lowest margins.

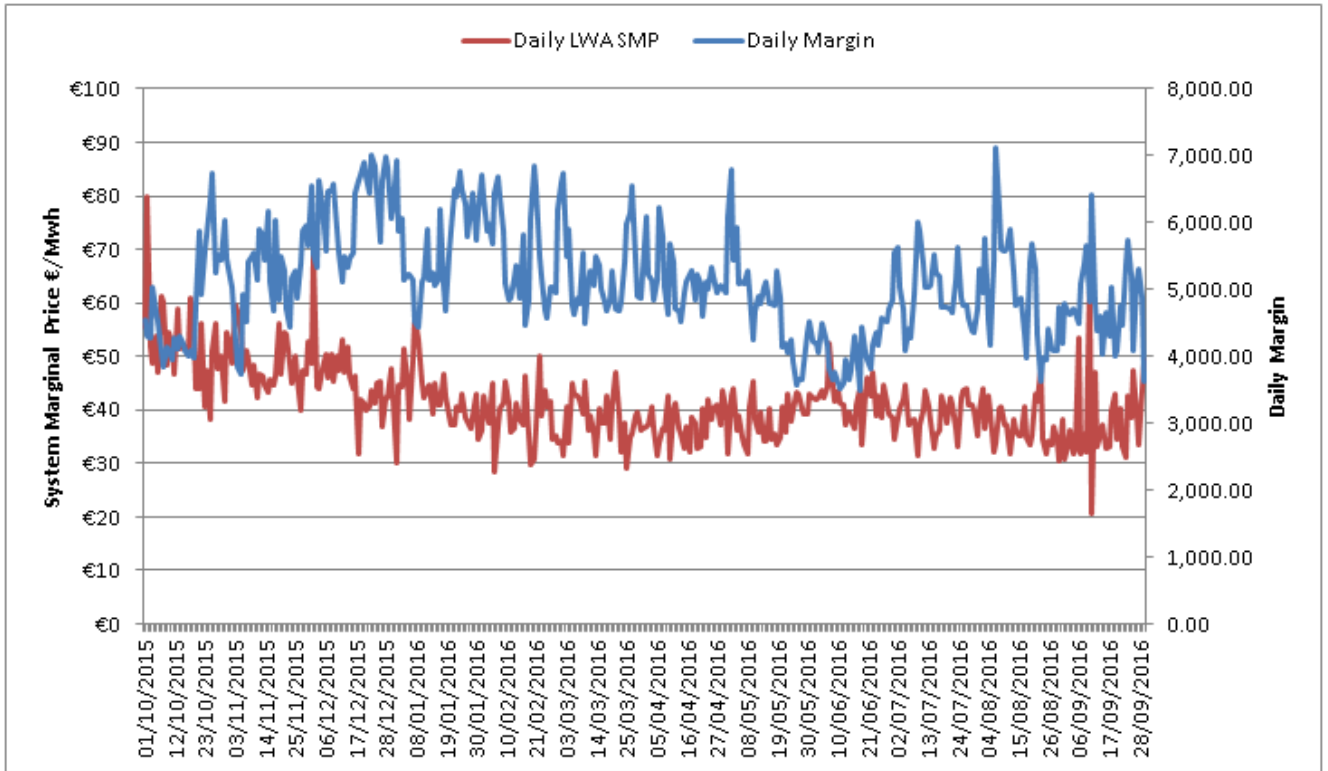


Figure 28 - Average Margin and Volume Weighted SMP

Figure 29 below shows the average daily SMP values by Trading Periods for the whole financial year from October 1st, 2015 to September 30th, 2016 for the three main run types. Similar to previous years the runs on average converge closely for most of the day with small variances concentrated over the morning and the evening peaks.

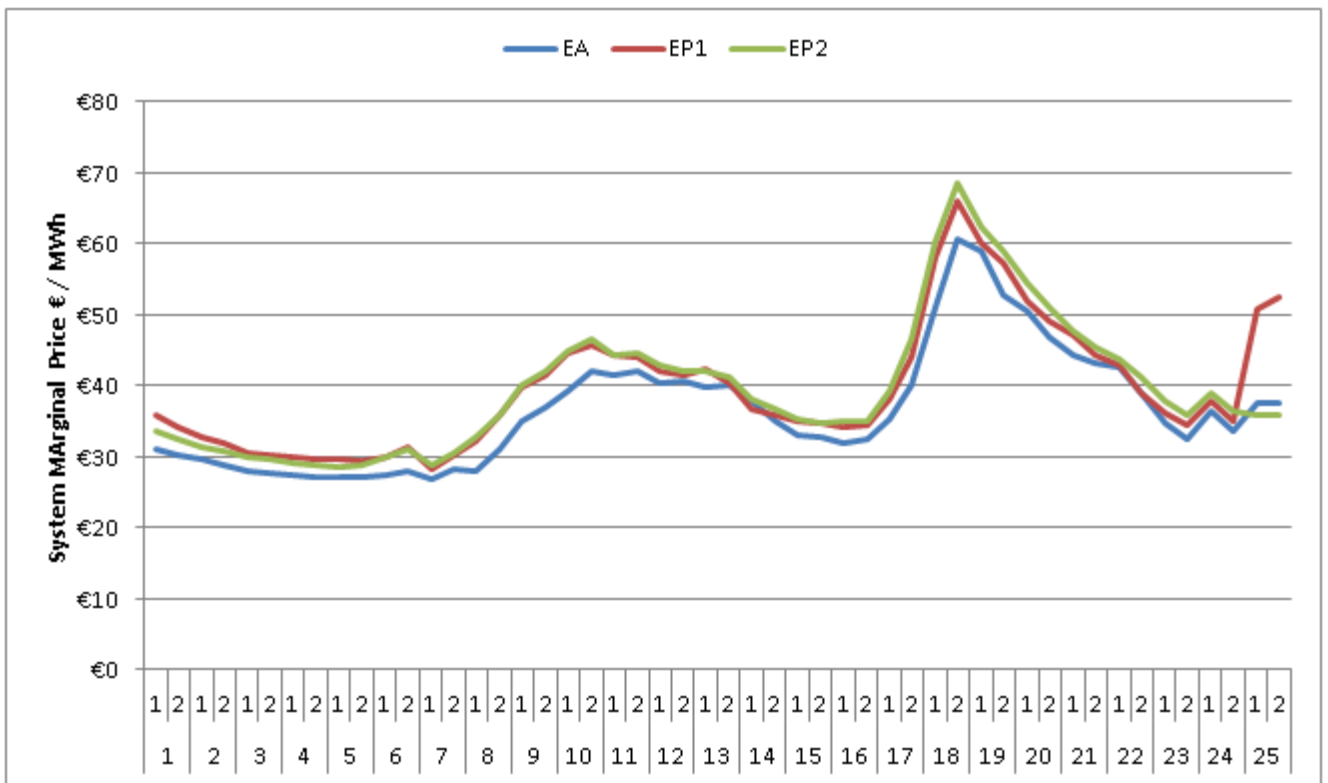


Figure 29 - Average Daily SMP by Trading Period from 1st Oct 2015 to 30th Sep 2016

Figure 30 below illustrates how the EA2 and WD1 compare with the EA, again small variations, on average, are observed over the morning and evening peak

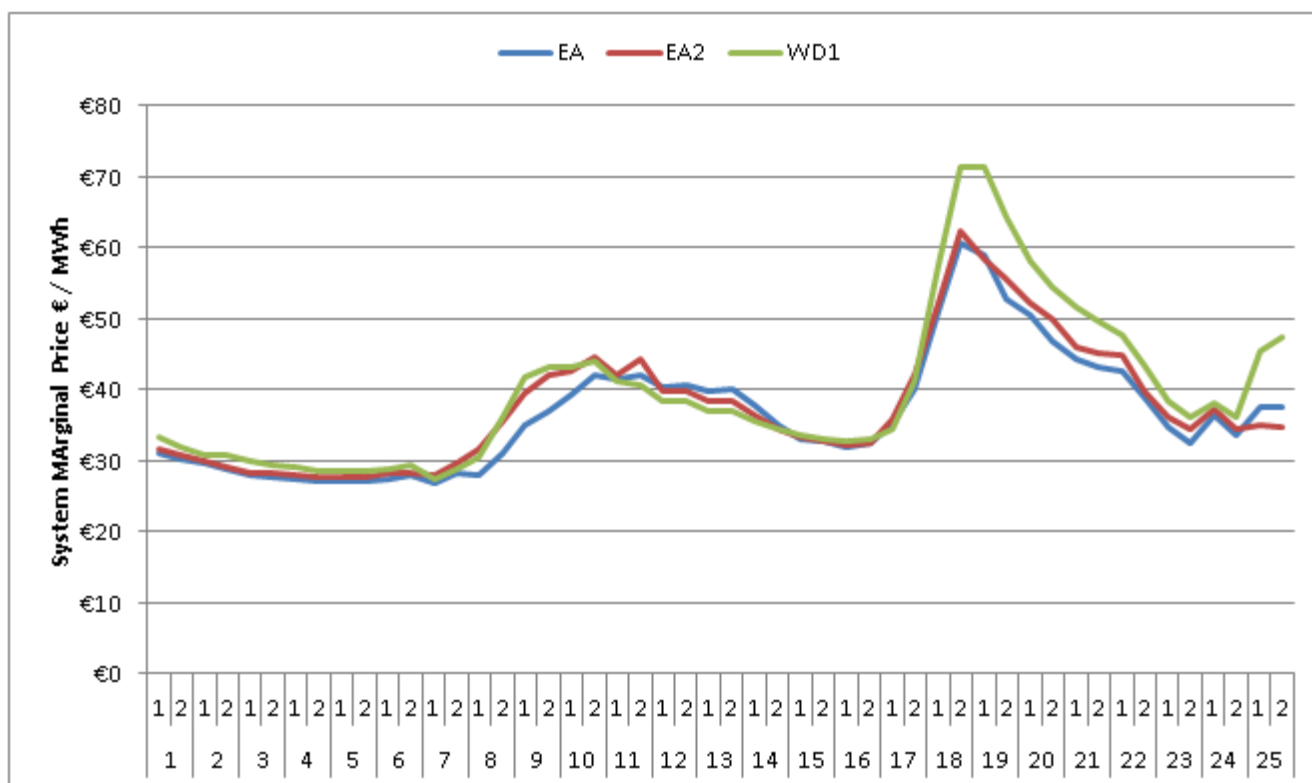


Figure 30 - Average SMP by TP from 1st Oct 2015 to 30th Sep 2016

6.3 Other Studies and Work

6.3.1 Guarantees of Origin and Fuel Mix Disclosure

SEMO is the issuing body of Guarantees of Origin (GO) in Ireland. SEMO began registering interested parties for the scheme in December 2011 and registration has been open to eligible Production Devices since. To be eligible for GOs a Production Device must generate electricity from a renewable source and must not be in receipt of support from a support scheme. There are 30 Account Holders and 110 Production Devices currently registered in the Online Registry.

There was 1 new Account Holder registered in the last year.

SEMO utilise [CMO.Grexel](#) as the Online Registry for GOs. CMO.grexel is compliant with the [EECS](#) (European Energy Certificate System), a standardization system for European Guarantees of Origin (GOs). SEMO has been a member of the [Association of Issuing Bodies](#) (AIB) since May 2015. AIB facilitate the international exchange of GOs via an inter-registry telecommunications hub.

From October 2015 to September 2016 2,124,575 GOs were issued on the Online Registry.

447,267 GOs were imported from other AIB members such as Norway and Iceland via the AIB hub. A further 8,983,287 GOs were imported manually from the United Kingdom. This is a significant increase on the number of GOs imported in the previous year; 4,957,392.

78,821 GOs were exported to Norway and Sweden.

3,804,680 GOs were cancelled on the Online Registry for use in Fuel Mix Disclosure. Of this figure, 1,040,650 were cancelled for use in Fuel Mix Disclosure in the United Kingdom. This is referred to as

Ex-Domain Cancellation; cancelling GOs for use in Fuel Mix Disclosure in a country that is not a member of the AIB.

The Fuel Mix Disclosure Enduring Solution is a separate annual project linked to Guarantees of Origin. SEMO is the calculating body for the Fuel Mix Disclosure of both Ireland and Northern Ireland. The disclosure calculation for 2011 was the first year that the enduring solution was in place; this meant that Suppliers could declare GOs in their Fuel Mix submissions. This method is being used going forward. Suppliers have received their fuel mix breakdowns and a final publication of the data by the Regulatory Authorities has been completed for the 2015 calculation.

The Green Source Products Verification is done after the Annual Fuel Mix Disclosure Calculation. The Regulation of Green Source Products Decision Paper [CER/15/205](#) was published by the CER in August 2015. The 2015 disclosure period was the first year that the verification was tested. The purpose of this verification step is to ensure that any Supplier offering Green Source Products has claimed sufficient Green Attributes (GOs and PSO) in their Fuel Mix Disclosure declaration to cover their sales of Green Source Products. SEMO have been liaising with the CER regarding the 2015 verification results, and the results will be communicated with Suppliers in due course. The enduring methodology and timeline is still to be agreed for 2016. This will be communicated to suppliers.

6.3.2 REMIT

SEMO continue to comply with their obligations under Regulation (EU) No 1227/2011; as an Organised Market Place reporting market transactional data to the Agency for Cooperation of Energy Regulators (ACER).